DMA Form 2

DEFENSE MINERALS ADMINISTRATION
Status Change Notice

DMA Docket No. 520-X

To: Reports and Records Branch

From: Tungsten Branch

Date: July 9, 1951

The following action has been taken this date on the above Controlled Document.

Forwarded to Executive Secretary

Type of request changed to:

Denied ☒ 7/2/51 Withdrawn ☐

Approved in amount of $

Other action, specify:

July 23, 1951

Hon. Harry P. Cain
United States Senate
Washington 25, D. C.

In reply please refer to:
DMA-520 — Tungsten

My dear Senator Cain:

This will reply to your communication dated July 13, 1951, enclosing a letter from Mr. E. H. Jamieson, 414 East 17th Avenue, Spokane 35, Washington, to you and a copy of Mr. Jamieson's letter to Mr. Lyndon Johnson, M. C.

Mr. Jamieson has submitted three applications for loan assistance. The first application for $467,500 to finance erection of a mill, housing, power, water supply, trucks, underground exploration, and working capital was denied on March 16, 1951 due to the absence of any ore reserves or favorable indications of mineable tungsten ore.

The last two applications of Mr. Jamieson for a production loan of $10,000 and an exploration loan of $9,000 were denied on July 2, 1951 after an unfavorable report from our field engineers.

We feel that Mr. Jamieson has been given every consideration and regret that we are unable to approve his various requests for financial assistance.

Sincerely yours,

JAMES BOYD

Administrator

Enclosure

TJBallard:awj

cc:File
Adm. Reading File
Reports & Records Unit
Dep. Admin., Rm. 4617
Mr. Holderer

Spokane Washington

July 5,1951.

The Honorable Lyndon Johnson
Congress of United States
Washington D.C.

Dear Senator Johnson:

I heartily agree with you in your criticism of the lack of stock-piling of tungsten by the Army and Munitions Board since the end of World War II but I think that your investigations should go farther and disclose to the American public the utter lack of co-operation of the agencies which were set up to prosecute increased production of the scare "Strategic Metals" of which Tungsten now is one of the most important.

May I relate to you my own personal experience with the different agencies in attempting to get a tungsten prospect into production? These statements are in relation the the property of Columbia Tungsten Corporation located in Stevens County, State of Washington in a tungsten producing area and on which I have a lease with option to purchase. Applications made out by myself on forms furnished me by the local Defense Minerals Adm. are on file in Washington D.C. under Docket No.DMA-520X and letters advising me of this are signed by Langdon F.Strobe, Executive Secretary and Tom Lyon, Director of Supply Division under dates of May,21 and May 25 respectively. These letter stae that these applications have been referred to the local DMA office in Spokane, Washington for recommendations. On June 4th a field engineer was sent to examine this property and to date I have heard nothing from the various agencies regarding the status of the applications.

This property is only a prospect at present but does have sufficient ore exposed to warrant further explorationand in the opinion of practical tungsten operators in this locality there is sufficient supply of tungsten ore that can be mined by surface ope ations to warrant a shipping project to a mill located about thirty miles distant. Assays and tests haveproven that this ore can be graded up to a profitable tungsten content and one of my applications gives a complete estimate of costs and returns.

I realize that this property is not a big,developed property meeting the standard requirements of the mining engineering profession but the tungsten situation in the United States, in my opinion,calls for a radical departure from standard requirement s for financing and aid from the agency created to handle increased domestic production. In other words, more cash should be available to the small owner and prospector and appropriations made by Congress should be considered expendible where there is a chance of developing new sources of tungsten. Prospects are risky ventures but in order to develop new sources of domestic production of tungsten these agencies should bear the risk and furnish limited capital for this purpose. All big producers, of which there are very few in the United States, grew from prospects.

The attitude of the United States toward T ungsten production in our own country has been such as to virtually sabotage the industry. Money has been poured into foreign properties and stock-piling held to a low level. According to reports released by the Department of the Interior there has never been over 5,000,000 pounds of tungsten stored in bonded warehouses and in the hands of the producers and consumers,in any quarter of the year Over 70% of these stocks were importations and most of them were bought by U.S. and later released to private industry. The tremendous increase since 1945 in comsumption of tungsten by military armanent manufacturers alone will more than take care of all domestic production to date. It may be that some of our "starry-eved theorists" thought that they could still obtain al the tungsten required from the tungsten fields of China- as they had done heretofor - through the kindly intervention of "Good old Joe". What a rude awakening these bureaucrats are now getting. The Russians have-within the 60 days- sent mininh experts and heavy machinery into China to increase the production of tungsten. I wonder why? What are we doing meanwhile to change our present policy to increase production? The General Service Administra has put a guaranteed price of $63.00 per short ton unit on domestic tungsten until they have purchase 3,000 000 units or unti July 1,1956 which ever isthe sooner. This helps but what is the use of a price when there is only a slight increase in domestic production and that increase is mainly due to four or five large producers. The domestic tungsten program,as outlined by GSA can only sucdeed with the co-operation of small mines and through the aid of prospectors. So far the loans made by DMA in this district are to operating mining companies who are amply able financially to carry on their own exploration program and by far the greater part of the dozen on so loans have been for zinc and lead,. I have not been able to secure private banking capital to put this property into production as they class such a loan as too risky and of too long duration. It is only fair and equitable that the agencies should furnish capital to discover new sources of tungsten in this country in view of their past performance in stifling tungsten production here and sending the funds to some other country. At the risk of being a bore I wish to relate my experiences with the Bureau of Mines and later with the Geological Division of the Department of the Interior in attempting to get this property examined with a view toward receiving financial aid for development and production.

From 1945 until 1948 I tried to get a field engineer from the Bureau of Mines to make a report on the propertu. The Bureau of Mines in Spokane kept on putting me off with the statements that there had been no monies allocated them for the exploration of tungsten. In 1948,I imagine to get rid of me- they sent an engineer to the property and looked it over. I was with him and as the weather turned snowy and this property is mountainous, he spent not over six hours in measuring the underground workings and taking a few samples of the ore. This comprised a government examination. The report said that at present it was not a commercial property. At that time tungsten was quoted at from $17.50 to $20.00 per ton unit.

At the beginning of this year I submitted an application for finances to buy and install mining machinery and a 100 ton capacity milling plant. Without any field examination this was turned down by Lyon,Supply Division. *I then filed* for an exploration loan for diamond drilling and then filed for an explorationf with production by shipping high grade oer. These are the two applications floating around somewhere in Washington D.C. at present, with neither approval or disapproval indicated. It has been thirty days since these applicafions were sent back for final disposition.

The attitude of the United States toward Tungsten production in our own country has been such as to virtually sabotage the industry. Money has been poured into foreign prospecting and stock-piling held to a low level. According to reports released by the Department of the Interior there has never been over 5,000,000 pounds of tungsten stored in bonded warehouses and in the hands of the producers and consumers, in any quarter of the year. Over 70% of these stocks were importations and most of them were bought by U.S. and later released to private industry. The tremendous increase since 1940 in consumption of tungsten by military armament manufacturers alone, will more than take care of all domestic production to date. It may be that some of our "starry-eyed theorists" thought that they could stalk at the tungsten receipts from the tungsten fields of China as they had done heretofore - through the kindly intervention of "good old Joe". What a rude awakening these tungsteers are now getting. The "masters have-not-lain-in" of days- sent mining experts and heavy machinery into China to increase the production of tungsten. I wonder why? What are we doing meanwhile to change our present policy to increase production? The General Service Administrator has put a guaranteed price of $65.00 per short ton unit on domestic tungsten until they have purchase 5,000 000 units or until July 1,1946 whichever ever is sooner. This helps but what is the use of a price when there is only a slight increase in domestic production as that increase is mainly due to four or five large producers. The domestic tungsten tonnage, as outlined by GSA can only succeed with the co-operation of small mines and through the aid of prospectors. So far the loans made by GSA in this district are to operating mining companies who are amply able financially to carry on their own exploration program and by far the greater part of the dozen or so loans have been for wine and food. I have not been able to secure private financing capital to put this property into production as they class even a loan as too risky and of too long duration. It is only fair and equitable that the agencies should furnish capital to discover new sources of tungsten in this country in view of their past performance in stifling tungsten production here and sending the funds to some other country. At the risk of being a bore I wish to relate my experiences with the Bureau of Mines and later with the Geological division of the Department of the Interior in attempting to get this property examined with a view toward receiving financial aid for development and production.

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The exploration and shipping production operation,as outlined in my Docket No.DMA-520X has been recommedad by a practical tungsten operator of over 25 years experience in this locality. This man was in charge of the General Electric property-known as the Germania Mine- and later was field man on tungsten for the same company. This operationis now being carried on in Nevada,Arizona and California where the mines do not own milling facilities. We had no tungsten custom mill closer than 1200 miles until 30 days ago when a company re-activated their mill for custom work.

I have registered with GSA and received a certificate which entitles me to use their facilities under their program.

In appreciation of your "blast" at the army and munitions board for their apathy in stock-piling tungsten and aiding in getting our supply so low, I wish to thank you but I think that a general investigation of the agency created to increase strategic metal production will go a long way toward simplifying the administration of the funds allocated by Congress and get some action toward discovering new sources of the metals.

Canada has even bought deposits of tungsten ore in British Columbia and Canadian capital has aquired properties in Nevada.

The time for "penny pinching" and haggling with the poverty stricken owners of tungsten prospects over terms for financing is over if the tungsten supply is to be increased appreciably in the United States.

I am sending a copy of this letter to the Congressional Representatives of the State of Washington,hoping thatit will wake them up to the lack of strategic metal-especially tungsten.

Again thanking you for your publicizing the situation,

Yours very truly,

/s/ E.H.Jamieson
E. H. Jamieson

E. H. Jamieson
414 East 17th Ave.
Spokane 35 Wash.

July 2[illegible], 1951

Hon. Harry P. Cain
United States Senate
Washington 25, D. C.

In reply please refer to:
DMA-[illegible] — Tungsten

My dear Senator Cain:

This will reply to your communication dated July 13, 1951, enclosing a letter from Mr. S. N. Jamieson, 414 East 17th Avenue, Spokane 35, Washington, to you and a copy of Mr. Jamieson's letter to Mr. Lyndon Johnson, D. C.

Mr. Jamieson has submitted three applications for loan assistance. The first application for $67,500 to finance erection of a mill, housing, power, water supply, trucks, underground exploration, and working capital was denied on March 16, 1951 due to the absence of any ore reserves or favorable indications of sinceable tungsten ore.

The last two applications of Mr. Jamieson for a production loan of $10,000 and an exploration loan of [illegible] were denied on July 2, 1951, after an unfavorable report from our field engineers.

We feel that Mr. Jamieson has been given every consideration and regret that we are unable to approve his various requests for financial assistance.

Sincerely yours,

Administrator

Enclosure

TJBallard:awj

cc:File
Adm. Reading File
Reports & Records Unit
Dep. Admin., Rm. 4617
Mr. Holderer

UNITED STATES SENATE

July 13, 1951

Respectfully referred to

James Boyd, Administrator
Defense Minerals Administration
Interior Building

with thanks for such favorable consideration as the communication herewith submitted warrants, and for a report thereon, to accompany return of inclosure.

By direction of

U. S. S.

HARRY P. CAIN

COPY COPY

414 East 17th ave. Spokane 35 Washington

July 7, 1951.

Honorable Harry P.Cain,M.C.
Washington D.C.

Dear Mr. Cain:

Enclosed herewith pleas find a copy of a letter written by myself to Lyndon Johnson,M.C. of Texas.

Also please find a news clipping from the Spokane Chronicle published July 5, 1951, in which notification of approval of the Black Warrior application is given by a Mr.Gerard Davidson,an attorney residing in Washington D.C. and representing Balck Warrior.
By any chance, is this attorney a former high official in the Department of the Interior?

What part is politics playing in getting loan application approved by DMA,War Production Adm. and other related agencies that seem to have a monkey wrench in the gears.

It was my impression that DMA was created for the purpose of helping the small prospector who is unable to get credit from private banks to enable him to discover and explore new sources of the strategic minerals.
All big mining companies and properties had their inception as a prospect.

It seems now that the field team of DMA is expecting a developed property which can be mined from the start economically. In a release dated May 11, sent out by General Services Administration to me, it states emphatically that the Domestic Tungsten Program must have the co-operation of the small mine and prospector to be of any value.

Last night,after months of waiting and corresponding with various officials of the different agencies, I did receive a terse notice that my applications had been disapproved as the recommendations of the field men of DMA were that the tungsten veins were too small to mine economically and there was not sufficient tungsten ore in sight to warrant a loan of $10,000.00 to produce and ship commercially. I was with the field man when he examined the property and he spent one day on it and took no samples of the ore.

So far in my life I have required no aid from the U.S.Government and will get along without it on this proposition but I applied for finances to eliminate time required for the undertaking.

Yours very truly,

/s/ E. H. Jamieson
E. H. Jamieson

Encl. 2

July 18, 1951

Hon. Lyndon B. Johnson
United States Senate
Washington 25, D. C.

In reply please refer to
DMC 52X-X, Tungsten

Dear Senator Johnson:

This will acknowledge your letter dated July 14, 1951, concerning the status of the loan application of Mr. J. H. Jamieson, 414 West 17th Avenue, Spokane 35, Washington.

Mr. Jamieson was advised in our letter dated July [illegible], 1951, that his application for a loan had been denied.

Sincerely yours,

JAMES BOYD

Administrator

TJBallard:dgs

CC: Adm. Reading File
Reports & Records Unit
Mr. Holderer
Dep Admin, Rm 4617
Files

July 9, 1951

A Mrs. Kimball from the Water Hermit's office of the State of Washington called she been the secretary of DMR Washington. Advised she would send July 2. Tel. 102-919

5 Pl Santa Fe Tungsten Co.

Mr. McCall from
Jackson office called
7/9/51

5 Pl

FILE COPY
SURNAME:

Lemmon

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

July 2, 1951

Memorandum

To: Landon F. Strobel, Executive Secretary, DMA

Through: Director, Supply Division

From: Tungsten Branch

DMA-520-X

Subject: Exploration and Production loan applications of
R. H. Jamieson
Columbia Tungsten Company
414 East 17th Avenue
Spokane 10, Washington

Mr. Jamieson first applied for an exploration loan of $12,000, then withdrew this application and submitted a request for a production loan of $10,000.

The Field Team for Region II examined the property and reported unfavorably on the chance of discovering any tungsten ore or of producing any. Therefore, we have denied both applications.

George B. Holderer

George B. Holderer
Chief, Tungsten Branch

APPROVED:

Tom Lyon

Director, Supply Division

DMLemmon:ec

CC: Adm. Reading File
Mr. Strobel
Regional Field Team Region II
Mr. Holderer
Mr. Lemmon
Files

FILE COPY
SURNAME:

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

Lemmon
Holden

July 2, 1951

Mr. E. H. Jamieson
Columbia Tungsten Co.
414 East 17th Avenue
Spokane 10, Washington

In reply please refer to:
DMA-5[illegible]0-X — Tungsten

Dear Mr. Jamieson:

We have reviewed your applications for an exploration project costing $12,000 and for a production loan of $10,000 to be spent at your tungsten prospect. The property was examined by the Regional Field Team during June.

Our review shows that the mineralization in your prospect occurs in narrow veins which cannot be mined economically because of the spotty occurrence of tungsten minerals. The chance of finding workable tungsten ores by diamond drilling is remote. Therefore, we regret that we must deny both your applications.

Very truly yours,

Tom Lyon
Tom Lyon, Director
Supply Division

DMLemmon:AWJ

cc:Adm. Reading File
File
Mr. Holderer
Mr. Strobel
Mr. Lemmon
Regional Field Team, Region II

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

July 2, 1951 a. E. C.

Memorandum

To: Landon F. Strobel, Executive Secretary, DMA

Through: Director, Supply Division

From: Tungsten Branch

LMA-520-X
Tungsten

Subject: Exploration and Production loan applications of
L. E. Jamieson
Columbia Tungsten Company
414 East 17th Avenue
Spokane 10, Washington

Mr. Jamieson first applied for an exploration loan of $12,000, then withdrew this application and submitted a request for a production loan of $10,000.

The Field Team for Region II examined the property and reported unfavorably on the chance of discovering any tungsten ore or of producing any. Therefore, we have denied both applications.

George B. Holderer
Chief, Tungsten Branch

APPROVED:

Tom Lyon
Director, Supply Division

July 2, 1951

FILE CONTENT TO STROBEL

DMA-520-X
E. H. Jamieson
Spokane, Washington

Report by Field Team Region II (four copies of memo)

Letter to Hon. Magnuson signed by Boyd [illegible]-8-51

Letter to Mr. Jamieson signed by Mr. Strobel 5-29-51

Letter to Mr. Meisserhorn from Coord Com. 6-1-51

Letter to Magnuson form Dr. Boyd 5-2-51

Memorandum sent to Mr. Strobel from Tuscon Branch 5-16-51

Letter from Mr. Jamieson to DMA 1-29-51

Letter to Hon. Horan from Dr. Boyd 5-2-51

Letter from Mr. Jamieson to DMA with MP-170 attached 5-14-51

Letter from Mr. Hubbard to Senator Magnuson with attached letter from Mr. Jamison 5-8-51

Q, E, O

July 2, 1951

Mr. E. H. Jamieson
Columbia Tungsten Co.
414 East 17th Avenue
Spokane 10, Washington

In reply please refer to:
DMA-520-X — Tungsten

Dear Mr. Jamieson:

We have reviewed your applications for an exploration project costing $12,000 and for a production loan of $1[illegible],000 to be spent at your tungsten prospect. The property was examined by the Regional Field Team during June.

Our review shows that the mineralization in your prospect occurs in narrow veins which cannot be mined economically because of the spotty occurrence of tungsten minerals. The chance of finding workable tungsten ores by diamond drilling is remote. Therefore, we regret that we must deny both your applications.

Very truly yours,

Tom Lyon

Tom Lyon, Director
Supply Division

DMLemmon:AWJ

cc:Adm. Reading File
File
Mr. Holderer
Mr. Strobel
Mr. Lemmon
Regional Field Team, Region II

July [illegible], 1951

Memorandum

To: [illegible]don F. Strobel, Executive Secretary, [illegible]

Through: Director, Supply Division

From: Tungsten Branch DMA-530-X

Subject: Exploration and Production Loan Applications of
[illegible]. [illegible] Jacobson
Columbia Tungsten Company
414 East 17th Avenue
Spokane 19, Washington

Mr. Jacobson first applied for an exploration loan of $[illegible], then withdrew this application and submitted a request for a production loan of $10,000.

The Field Team for Region II examined the property and reported unfavorably on the chance of discovering any tungsten ore or of producing any. Therefore, we have denied both applications.

George B. Holderer

George B. Holderer
Chief, Tungsten Branch

Concurred:

Tom Lyon
Director, Supply Division

DHLemmon:ac

CC: Adm. Reading File
Mr. Strobel
Regional Field Team Region II
Mr. Holderer
Mr. Lemmon
Files

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

So. 157 Howard Street
Spokane 4, Washington

June 20, 1951

Memorandum

To: Mr. P. R. Bradley, Chairman, Tungsten Commodity Committee, DMA, Washington 25, D. C.

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

Subject: Columbia Tungsten Property, Stevens County, Washington docket DMA-520.

A report by Mr. Allan B. Griggs of the Geological Survey concerning the Columbia Tungsten property is attached in quadruplicate. On the basis of this report, it is recommended that the various proposals made by Mr. Jamieson for various types of loan all be denied.

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

Enclosures

cc: U.S.B.M., Spokane

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

June 20, 1951

Mr. L. F. Strobel
Executive Secretary
Defense Minerals Administration
Department of the Interior
Washington 25, D. C.

Dear Mr. Strobel:

Enclosed are four copies of a memo from the Field Team and a report on the Columbia Tungsten Property, docket DMA-520. Will you kindly forward these to the Tungsten Division.

Sincerely yours,

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

cc: U.S.B.M., Spokane

Enclosures

UNITED STATES
DEPARTMENT OF INTERIOR
OSCAR L. CHAPMAN-SECRETARY

DEFENSE MINERALS ADMINISTRATION

Report by Examination Team
Region II

DMA-520--Columbia Tungsten Property

Stevens County, Washington

Allan B. Griggs, Geologist
U. S. Geological Survey

June 12, 1951

Columbia Tungsten Property

Stevens County, Washington

RECOMMENDATIONS

It is recommended that both the exploration and production loans applied for by E. H. Jamieson for the Columbia Tungsten property, Stevens County, Washington be denied. It is believed that the deposit could not be mined economically even at present prices because of the spotty occurrence of the tungsten minerals in narrow veins, which bulk small in volume. An excessive amount of rock would have to be broken to recover the ore by sorting, probably a ratio of 20 to 1. Exploration to date has not shown any improvements in the deposit and does not encourage further work. Furthermore, because of the discontinuity of the veins and the spotty occurrences of tungsten minerals within them, drilling of the deposit is of very dubious value.

APPLICANT

The applicant is Mr. E. H. Jamieson, 414 East 17th Avenue, Spokane 10, Washington.

LOCATION OF DEPOSIT

The Columbia Tungsten property is in sec. 19, T. 32 N., R. 38 E., in Stevens County, Washington. It may be reached from Cedonia by 1.5 miles of paved road and 9 miles of graveled and dirt road.

(See index map). The nearest railpoint is Addy, Washington, 18 miles to the east. The Columbia Tungsten Corporation owns the property which includes 15 claims in sec. 19 and 30, but only the Columbia No. 3 Survey Lot No. 1237, on which all of the workings are located is considered in the application for an exploration. E. H. Jamieson holds a lease with an option to purchase the property. The Columbia Tungsten property has had no commercial production.

DESCRIPTION OF PROPOSAL

E. H. Jamieson originally applied to the DMA for a production loan of $460,000, which was denied because of the obvious lack of reserves. He later applied for an exploration loan and another production loan. It is with these latter two that this memorandum deals. The exploration loan applied for was $12,000 on a 75/25 basis to drill seven holes with an aggregate footage of 2,000 feet, the holes to be drilled in a northwesterly direction at an angle of 80° from the horizontal to intersect a steeply southeast dipping mineralized zone. They were to be located at intervals of 50 feet in a northeasterly direction from the present workings. A production loan of $10,000 also has been applied for. This would be expended in surface mining approximately 1,000 tons of rock, sorting it, trucking the sorted ore to a custom mill, the Germania Consolidated, 25 miles away, and on milling costs.

DESCRIPTION OF DEPOSIT

The deposit of the Columbia Tungsten Corporation lies within a small stock (2-1/2 sq. miles areal extent of outcrop) of porphyritic granite within a few hundred feet of its western contact with argillite and quartzite. In the vicinity of the deposit the granite has a well developed jointing trending from N. 30° E. to N. 50° E. and dipping steeply to the southeast or vertical. The deposit consists of a group of lensy and discontinuous quartz veins containing wolframite, scheelite, molybdenite, pyrite, chalcopyrite, tourmaline, and some silver-bearing mineral. These veins average four inches or less in width, occasionally lensing to a thickness of 12 inches. None could be traced for more than 50 feet, usually much less. They lie within a zone trending N. 30° E. with a near vertical altitude. Within the zone the veins vary both in strike and dip, but in general parallel the zone. Some follow the joint cracks in the granite. As many as five veins were found within the zone at one place, but usually only one or two could be observed. This zone appears to vary from 5 to 25 feet in width.

Although wolframite and scheelite do occur in good concentrations here and there, the overall tungsten mineralization is spotty and sparce. These two minerals are found mostly in the

narrower parts of the veins, in small offshoot veinlets, and in the selvages of the wider portions. Occasionally scheelite may be seen as blebs disseminated in the granite. The amount of tungsten-bearing material within the zone is small. An example of the better mineralization is where the five veins were observed across the zone. At this place the zone was 18 feet wide; the quartz veins made up 2-1/2 feet of the zone, but vein material carrying wolframite and scheelite amounted to less than 1 foot. The latter 1 foot probably does not average more than one percent WO_3. The above observations are based on the underground workings and the almost continuous outcrops up the steep slope for 150 feet to the northeast above the workings. The amount of mineralization in the next 400 to 500 feet upslope did not appear to be as good as in the vicinity of the workings. Three holes totaling 200 feet were drilled in the deposit in 1950; these were barren of tungsten minerals.

Exploration of the deposit has been done by three short adits (see map), three diamond drill holes, and occasional shallow blasting of surface exposures. None of this work encourages further exploration.

Assays presented as evidence by the applicant, which vary from 1.58 to 14.7 percent WO_3, are in marked contrast to those made by the Bureau of Mines (see map). It is not doubted that samples

could be picked which would assay as high as indicated, but it is believed that those of the Bureau of Mines are more near an average.

It is concluded that the deposit could not be mined economically even at present prices. Furthermore, exploration to date does not encourage the belief that the deposit should be further explored.

FILE COPY
SURNAME:

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

Bradley
Boyd
Strobel 6/11

June 8, 1951

Hon. Warren G. Magnuson
United States Senate
Washington 25, D. C.

In reply please refer to
DMA-520

Dear Senator Magnuson:

We return herewith a letter, from a Mr. L. H. Thompson of Wenatchee, Washington, which you had sent us in March and which inadvertently has been retained in our files.

The inquiry made in this letter was answered in my letter to you dated March 2, reporting on the status on that date of an application before this Agency of Mr. R. H. Jamieson of Spokane.

Sincerely yours,

JAMES BOYD
Administrator

W

Enclosure
PRBradley:mem
cc - Adm. Reading File
Mr. Strobel
Mr. Douglas
Mr. Bradley
Files

June 8, 1951

Hon. Warren G. Magnuson
United States Senate
Washington 25, D. C.

In reply please refer to
DMA-520

Dear Senator Magnuson:

We return herewith a letter, from a Mr. L. A. Thompson of Wenatchee, Washington, which you had sent us in March and which inadvertently has been retained in our files.

The inquiry made in this letter was answered in my letter to you dated March 2, reporting on the status on that date of an application before this Agency of Mr. N. H. Jamieson of Spokane.

Sincerely yours,

Administrator

Enclosure

PRBradley:mem

cc: Adm. Reading File
Mr. Strobel
Mr. Douglas
Mr. Bradley
Files

Wenatchee, Wash.
February 26, 1951

Honorable W. G. Magnuson
M. C.

Dear Sir:

I am writing in regards to a matter of great importance to me. It means a lot to my future as well as others.

I have reference to a large deposit of tungsten ore situated about sixty (60) miles north of Davenport, Stevens County, Washington.

This property is controlled by the Columbia Tungsten Corporation of which I am a stockholder and therefore explains the import nce of the matter to me.

During the World War II the Government loan Agencies scoffed at the mere mention of advancing our company a loan to produce the needed tungsten and scheelite. According to attested assays, this property will produce on an average of 1.78% tungsten concentrate per ton of mined ore, which, in itself is very good percentage. (Read our application now on file with DMA.

Mr. E. H. Jamieson, 414 East 17 Ave., Spokane 10, Wash. is General Manager of our company. He has filed Form NSRB-146, with complete data, with Dr. Boyd, head of the D.M.A. and according to newspapers, funds have been allocated for the purpose of securing new sources of strategic metals, of which tungsten is considered, and now so desperately needed by our Government.

Now Congressman Murray comes up with his mino "incentive" plan on "Grubstake" plan. Honestly, it will not benefit our small company one bit, only hamstring it and is useless to us.

Mr. Magnuson, I served as president of the Chelan County Young Democrats Club of Wenatchee, for 2 years, member of the Chelan County Democratic Central Committee, serving with Mr.Otto Bise and Mrs. H. J. Delfeld, both of whomm I'm sure, you are well acquainted with. Also served as Secretary for the Young Democrat8c Clubs of the State of Washington. So far I have asked for nothing, in return for my services to the Democratic party and its candidates.

But now, sir, I'm asking a favor of you, if you please. I know your time is very valuable and you little to spare, but won't you please see Dr. Boyd, the head of the DMA in Washington, D. C. and give our application for assistance a much needed boost?

One of the other members from Everett, Washington informs me he has written Mr. Jackson to do the same.

Time is the essence of all things sir, and again I ask you to please do this for me as it means a lot to me as well as my associates and the development of the northwest you'll never regret it.

Thank you for taking a few moments of your valuable time to read my letter and trusting in you to give our application the big boost it really needs, by seeing Dr. Boyd in a squeezed in moment.

Thanking you again for the above, I am

Yours very truly,

(sgd.) L. H. Thompson

Apt. 305 Vandenburg
Wenatchee, Washington
(Chelan County)

P.S. The application was vilde uncdf ghd nsmd of the Columbia Tungsten Corporation, in the amount of $450,000.00 for the purpose of mining and producing tungsten concentrates, vitally needed by our Government.

T.

June 8, 1951

Hon. Warren G. Magnuson
United States Senate
Washington 25, D. C.

In reply please refer to
DHA-[illegible]

Dear Senator Magnuson:

We return herewith a letter, from a Mr. L. A. Thompson of Wenatchee, Washington, which you had sent us in March and which inadvertently has been retained in our files.

The inquiry made in this letter was answered in my letter to you dated March 2, reporting on the status on that date of an application before this Agency of Mr. H. H. Jamieson of Prosser.

Sincerely yours,

JAMES BOYD
Administrator

Enclosure

PRBradley:mem
cc - Adm. Reading File
Mr. Strobel
Mr. Douglas
Mr. Bradley
Files

Wenatchee, Wash.
February 26, 1951

Honorable W. G. Magnuson
M. C.

Dear Sir:

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(sgd.) L. H. Thompson

Apt. 305 Vandenburg
Wenatchee, Washington
(Chelan County)

P.S. The application was vildc uncdf ghd nzmd of the Columbia Tungsten Corporation, in the amount of $450,000.00 for the purpose of mining and producing tungsten concentrates, vitally needed by our Government.

T.

JUN 1 1951

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

DMA 520 - Tungsten
E. E. Jamieson
Production loan

Dear Mr. Weissenborn:

On May 28 we referred to you for field review an exploration application from Mr. E. E. Jamieson of Spokane, requesting funds to diamond drill the Columbia Tungsten property. Mr. Jamieson subsequently submitted another application, his third, for a production loan of $10,000. Apparently he intends to withdraw the exploration proposal.

We are sending you a copy of the third application, dated May 14, and wish your recommendation. This request for funds to use in production of tungsten ore for shipment to a custom mill is the first practical proposal we have received from Mr. Jamieson. We appreciate that his change in viewpoint probably resulted from conference with you.

Is Mr. Jamieson's statement correct that the Germania Consolidated Company is re-conditioning its mill and will take custom ore?

Very truly yours,

Tom Lyon

Tom Lyon
Chairman, Coordinating Committee

Enclosure

Approved:

[illegible] Moon

Bureau of Mines

[illegible]

Geological Survey

DMLemmon:ec
CC: Adm. Reading File
Mr. Strobel
Regional Field Team Region II
Mr. Moon

Coordinating Committee
Mr. Lemmon
Mr. Geehan
Mr. Bradley
Files

FILE COPY
SURNAME:

Lemmon
Gehan
Holmes

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

MAY 28 1951

File Sent To, 5/25/51

Mr. A. E. Weissenborn, Executive Officer
DMA Field Team, Region II
So. 157 Howard Street
Spokane 8, Washington

Subject: DMA 520 X - Jamieson Tungsten

Dear Mr. Weissenborn:

Mr. E. H. Jamieson, 414 East 17th Avenue, Spokane 10, Washington has requested an exploration loan of $9,000 toward a $12,000 project of diamond drilling at the Columbia Tungsten claims, Stevens County, Washington.

Mr. Jamieson's previous proposal (DMA 520) for a production loan of $467,500 was denied because of inadequate ore reserves.

It is not clear to the Tungsten Commodity Committee what Mr. Jamieson will achieve by the proposed diamond drilling. However, some production might possibly be made from the small veins if properly prospected. Please give us your recommendations about the proposed drilling and also about the feasibility of undertaking some other form of exploration.

The revised application, form MF-103, is enclosed.

Yours very truly,

Tom Lyon

Tom Lyon
Chairman, Coordinating Committee

Enclosure

Approved by:
Lowell B. Mohn

For the Bureau of Mines

Olaf N. Rove

For the Geological Survey

DMLemmon:gt

5/23/51

Copies to: Surname copy
Dr. Boyd
Mr. Strobel
Mr. Bradley
Mr. Moon
Mr. Rove
Mr. Thayer

DMA 520

FILE COPY
SURNAME:

Lemmon
Graham
Holzer
Rove
Moon

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

MAY 28 1951

Mr. E. H. Jamieson
414 East 17th Avenue
Spokane 10, Washington

In reply please refer to DMA-520 X

Dear Mr. Jamieson:

Your revised application for an exploration project costing $12,000 at the Columbia tungsten property has been referred to Mr. A. E. Weissenborn, So. 157 Howard St., Spokane 8, Washington for recommendation.

Mr. Weissenborn will probably wish to consult with you in the near future.

Yours very truly,

Tom Lyon
Director, Supply Division

DMLemmon:gt

5/23/51

Copies to: Surname copy
Dr. Boyd
Mr. Strobel
Mr. Bradley
Mr. Rove
Mr. Moon
Mr. Thayer
Field Team, Region II

DRAFT

Mr. A. E. Weissenborn, Executive Officer
DMA Field Team, Region II
~~Mr. A. E. Weissenborn~~
So. 157 Howard Street
Spokane 8, Washington

DMA 520- Tungsten
E. H. Jamieson
Production loan

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Is Mr. Jamieson's statement correct that the Germania Consolidated Co. is re-conditioning its mill and will take custom ore?

Sincerely yours,

Tom Lyon
Chairman, Coordinating Committee

Approved:

_____
for the Bureau of Mines

_____
for the Geological Survey

enclosure

D.M.Lemmon
May 31, 1951

FILE COPY
SURNAME:

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

May 23, 1951

Mr. E. H. Jamieson
414 East 17th Avenue
Spokane 10, Washington

Subject: DMA-520X
Re: Exploration Loan - Columbia Group and Santa Fe Group

My dear Mr. Jamieson:

Receipt is acknowledged of your application and attachments of May 14, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-520X and referred to Mr. P. R. Bradley, Chief, Tungsten Branch on May 21, 1951.

In any future correspondence relating to your application, kindly refer to DMA-520X

Sincerely yours,

LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:mab
cc: Strobel-2
Files
Bradley
Lyon

DMA 520

Dma - 520

Spokane Washington

May 14,1951.

Defense Minerals Administration
Department of the Interior
Washington 25,D.C.

Gentlemen:

On January 23,1951 I submitted to you an application for a loan for big scale production on the property of Columbia Tungsten Corporation in Stevens County,State of Washington. This loan was refused on the ground that there was not enough ore developed to justify production on the scale stated in my application. Form NSRB-146.

On May 5,1951 I submitted to you an application on Form MF-103 for a 75% participation loan on the same property. This form probably has not as yet been processed. In this application I asked for a $9,000.00 loan for a diamond drilling contract of 2,000. feet for exploration of the ore bodies.

Since the date of application for the latter loan I discovered that there will be available in our locality a custom tungsten mill and I have contacted the parties who own the mill and have been assured that they would mill our ore in lots of 100 tons as soon as they had finished rehabilitating the mill. This will be completed by June 1 and they thought that by July 1,1951 that they could begin custom milling. This mill is 25 miles distant from our property on good roads.

I have contacted Mr.A.E.Wiesenborn of the Geological Division of the Department of the Interior at their Spokane office and told him what I had in mind. He handed me Form MF-100 and on that form I am submitting to you an application for a loan amounting to $10,000.00. This money is to be used to surface mine sufficient ore to obtain 100 tons of sorted ore of %WO_3 5 or better and the 100 tons of sorted ore is to be trucked to the custom mill and concentrated. The loan is to be repaid from cash derived from these concentrates. This is strictly a loan for operation and production of tungsten concentrates. The work will be let to individual contractors and there will be no money required for equipment as I have the sorting lamp. The contractors will furnish everything.

These operations are proving sucessful in Nevada,Arizona and California where there are milling facilities within fifty miles.

Following is a table of the nature of expenditures and the amount of cash applied for.

Nature of Expenditure	Amount
Contract for mining 500 tons of vein matter and "Chuting" to sorting pile	$2,000.00
Sorting 500 tons to 5 per cent grade(per diem)	$2,000.00
Contract for trucking 100 tons of sorted ore to custom mill	500.00
Custom milling charges for 100 tons	800.00
	$5,300.00
Operating capital for mining and sorting an additional shipment of 100 tons of sorted ore	4,700.00
Total required	$ 10,000.00

The second shipment would be processed while waiting for returns from the first shipment.

E.H. Jamieson Applicant

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington.

Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA FOR USE UNDER THE DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. Dma-520

Date received 5/18/51

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Name and address of applicant

Date May 14,1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) ~~Necessity Certificate pursuant to the provisions of Sec. 124-A (Amortization Deduction) of Internal Revenue Code, 1950, (5)~~ priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and ~~(6)~~ 5 other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   - (*a*) What are the chief mine, mill, or smelter products?
   - (*b*) What are the byproducts, if any?

   Exhibit A(1)
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   - (*a*) Linear feet of shafts.
   - (*b*) Linear feet of drifts and crosscuts.
   - (*c*) Linear feet of tunnels or adits.
   - (*d*) Linear feet of other mine openings (explain briefly).

   Exhibit B(2)

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   - (*a*) Distance and direction from nearest town and shipping point.
   - (*b*) Mining district.
   - (*c*) Township, Section, Range.
   - (*d*) County, State.

   Exhibit 3
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☐ Owner.
   - ☐ Lessee.
   - ☐ Contractor.

   Exhibit 4
5. Number of years in production ____________
   If not in production or operation, estimated date when production will begin ____________
6. Experience of operators: Exhibit 5
   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History: Exhibit 6
   - (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   - (*b*) State briefly the known history and production of adjoining and neighboring properties.
   - (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

16—63792-1

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation		Life Insurance Carried for Benefit of Applicant	
				Common (e)	Preferred (f)	Amount (g)	Net Cash Surrender Value After Loans (h)
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$	$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)					
2. Quantity of product processed (specify unit of measure and type of process)					
3. Quantity and grade of product sold or shipped (specify units of measure)					

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

Form MF-100 Exhibit 1.

E.H.Jamieson 414 East 17th Ave. Spokane 10 Washington.

Question 1.
(a) Tungsten concentrates.
(b) Silver,molybdenum and iron pyrite.

Exhibit 2.

Question 2.
(a) No shafts
(b) Drifts 70 feet; crosscuts 40 feet.
(c) Adits 260 feet
(d) Discovery work on 15 claims

Adits are self draining.

Exhibit 3.

Question 3.
(a) Closet town Cedonia,Wash.-7 miles Southwest of mine.
Nearest shipping point Addy,Wash.-18 miles East of mine.
(b) Summit Mining District
(c) Twnp.32 N,Sec.19 & 30,Range 38Ewm.
(d) Stevens County,State of Washington.

Exhibit 4.

Question 4.
(a) Current development-E.H.Jamieson,Operator.
(b) Lessee and part owner.

Exhibit 5.

Question 6.

Mining experience:

Member Board of Directors of Metaline Mining and Leasing Company 1929 and 1930. Resigned on sale of that property to American Zinc.
Locator of Columbia Group of lode mining claims.
One of the Incorporators of Columbia Tungsten Corporation, a Washington corporation of $100,000.00 capitalization.
Secretary and Treasurer of same 1938 to 1941.
President and General Manager of same to 1949.
Lessee of Columbia Tungsten properties March 3,1949 to March 31,1952.
Supervision of current development of property.

Business Experience:

President and Manager of Jamieson Investment Company,a Washington corporation operating farm lands,orchards, apartment houses and business properties-1916 to 1939 when the corporation was voluntarily dissolved and liquidated.

Exhibit 6.

Question 7.

(a) An exploratory adit driven alonside the ledge for a distance of 196 feet proves the ore to a vertical depth of 100 feet. Seventy feet in from the poratl of this adit a crosscut has been driven to the east and south and at a point about twenty feet in from the adit this crosscut cuts a vein believed to be the wesrtern band of the parallel veins disclosed on the surface. This adit is at an elevation of 5,000 feet and is 1200 feet vertically below the crest of the mountain.
100 feet below the exploratory adit, a tunnel has been driven in a northeasterly direction for a distance of 65 feet.
Directly above the portal of the exploratory adit a drift has been driven on the vein exposure for a distance of 70 feet. The quartz lens is over ten feet in width at the prtal of the drift. There are three distinct quartz veins shown in the drift which is 5x7'.
An examination was made of the surface exposures at night, using the ultra-violet ray lamp. The area was "checkerboarded" in 25 foot squares and examined for tungsten fluoresence.
In 1950 the mineralized zone was diamond drilled- in a southeasterly direction from the portal of the drift for a distance of 95 feet and in a northeasterly direction for a distance of 100 feet. Lack of finances shut down this drilling.

(b) The Washington Metals, an adjoining property consisting of two patented claims has a record of surface trenching of the veins, and a small underground production. This operation was suspended in 1938 and the amount of their production is not recorded.
The "Germania Mine", situated on the same range of mountains as Columbia Tungsten was originally operated by the German Government until we entered World War I. They operated for over five years. No records are available as to the amount of their production and in the years between the abandonment of the Germania by the Germans and the purchase of the property by General Electric there are no production figures available. However the Geology Division of the State of Washington gives a production record of the Germania under G.E. ownership as 1250 tons of high grade tungsten concentrates. Private individuals are working the Germania at present.
Germania Consolidated, adjoining the Germania, has a record of over $100,000.00 production and at present this company is rehabilitating their 50 ton mill and intend to start production and custom milling within 60 days. The applicant intends to truck his highgrade ore to this mill this summer.

(c) "As exposed by the ore exploratory tunnel on the Columbia No.3 claim, the ore deposits occupy fissures in granite and have been developed by tunnel and crosscuts underground for a distance of 75 feet along its strike and 250 feet on the supposed continuation of the vein. Its vertical depth has been proven for a distance of 100 feet and extensive surface workings lead to the supposition that it extends to the top of the mountain which is 1200 feet above the discovery strike. The average width of the orebody is about three feet, although in some places it is over six feet wide and in others it narrows to four inches. This is characteristic of lenticular veins. It is in the narrower widths that the enrichment is the strongest, assays of cross-samplings having returned as high as 15 per cent tungsten content. Over the average width of the ore-body, as exposed, one and one-half to two per cent is a conservative value, as shown by assays.

Exhibit 6-cont.

Post mineral faulting has in many places broken the continuity of the veins. These breaks run from east to west,which is the identical geological situation found in the "Germania Mine". Such displacements run from 7 to 30 feet.

The vein filling is chiefly quartz of the massive variety which is mostly white in color,but in some cases gas a slightly bluish tint. It also contains some black tourmaline and green fluorite as well as some pyrite.

The veins are mineralized in a more or less pockety manner by a ferberitic wolframite with which is associated scheelite and pyrite and molybdenum.

You have in these claims the ideal setup for cheap and extensive mining and production. As far down as the 1200 foot level,all ore can be taken out by gravity,thus eliminating the expense of hoisting ore and sinking shafts. It is a demonstrated fact that surface mining of tungsten is the cheapest and fastest method known and in view of the amount of tungsten ore and the size of the ore-shoots on the surface,I recommend that surface mining be carried on in conjunction with underground development. It would be very easy to produce enough ore in this manner to run a mill of 25 tons daily capacity. The cash returns from your milled concentrates will more than pay the cost of development,once your mining and milling machinery is installed. Ore bunkers should be constructed to take care of the excess ore until development warrants a larger mill!

(Signed) F.M.Handy E.M.
Spokane Wash.

Exhibit 7.

See details in Exhibit 14.

Exhibit 8.

See exhibit 6-report on ore deposits by F.M.Handy,E.M.

Geology: The Summit district lies in west central Stevens County along Columbia River,having as its eastern boundary the great quartzite ridges known as the Huckleberry Mountains. It includes most of townships 32 to 34 N.of ranges 37 and 38 EWM.

Maximum elevations are 6,000 feet above sealevel,giving total relief of about 4,500 feet above the level of the lake formed by the Grand Coulee Dam. Drainage is all westward to the Columbia thro Harvey and Stranger creeks and a number of lesser,mainly intermittent,short streams.

As mapped by Weaver,the rocks of the district include the Mission argillite,the Colville quartzite,the Chewelah argillite and some undifferentiated limestone,all belonging to the Stevens series of Paleozoic age. These have been intruded by a small stock of the Loon Lake granite,which is locally nearly as basic as diorite in this area. In general the sedimentary beds dip away from the intrusive,but fault ing has produced a reversal in many places,giving rise to rather complicated structures. Three properties,the Daisy,Columbia Tungsten and Washington Metals have shown the occurence of tungsten.

Exhibit 8-cont.

The Columbia Tungsten Corporation holds 15 claims in Sections 19 and 30,Twp. 32 N,Range 38 EWM. The veins being developed lie a quarter mile north of the Addy-Bissel road that joins State Highway 22 at a point 2 miles north of Cedonia.
The claims are situated immediately west of the divide between Columbia River and Mill Creek,the latter being a tributary of Colville River. Much of the area is forested,particularly the northern slopes. Water is obtainable from streams and springs.
The country rock is a porphrytic granite whose surficial area is about 2½ sq. miles;it is intrusive into gray arkosic quartzites and argillites of the Stevens series. A few hundred feet from the west contact the granite is cut by quartz veins that trend north-northeast and dip from 50 to 90 degrees, mostly southeast. These veins are exposed on the barren mountain side for a distance of over four hundred feet . The mountain side is steep-averaging 45 degrees in pitch.

Exhibit 9.

(1). Surface assays across veins of quartz running up the area to be mined (parallel bands averaging one foot in width into which "gash or feeder" veins intrude) taken every feet feet from the portal of the adit total an average of better than 2% WO_3 for a distance on the surface of 400'. Hand concentration of a "batch sample of 300 pounds of mine run ore taken out of the drift(5' in width) produced 6½ pounds of WO_3 concentrate 61.37%WO_3. The continuation of these veins has been proved for a length of 196 feet underground by the exploratory adit and their vertical depth has been established for 100 feet. The indicated reserve is estimated at a length of over 400 feet and a depth of 300 feet.
(2) Proven ore reserve 3400 tons(short tons)
Indicated ore reserve is estimated at 22,500 short tons.
Formula used:
Cubic foot content determined: $\frac{\text{Length x Depth x Width}}{2}$ equals volume.
8 cu.ft. of ore in place equals 1 short ton.

Exhibit 10.

To RR shipping point - 18 miles. 5 miles of dirt road-balnce hard surfaced.
Access to supply point -26 miles.5 miles dirt - balance hard surfaced.
To custom mill 25 miles- 15 miles dirt- balance 10 miles hard surface.

Exhibit 11.

Sufficient water for camp and mining purposes is available the year round from drainage of adits.

Exhibit 12.

Gasoline or Diesel power for compressor.

Exhibit 13.

Combination bunk and cookhouse for 6 men. Good condition.Outbuildings.
Ore-bin 30x10x12 with trackage overhead. Ore gates for loading trucks.
No major mining equipment as all work has been done by contracting.

Exhibit 14.

The tungsten ores in this deposit are ferberitic wolframite and scheelite. The wolframite mineralization occurs mainly in the quartz gangue and in most cases is surrounded and filmed over by small scheelite crystals causing good fluorecsence and thus making it easy to sortnunder the violet-ray lamp. The scheelite also occurs to shallow depth in the granite enclosing the veins. A brownish scheelite occurs in large crystals in the gray quartz.

As the operation of highgrading scheelite ores has been sucessfully carried in small deposits I have arrived at a program for mining and sorting the ores contained in the quartz veins which should be a profitable operation on a small scale. It is my intention to mine and sort enough ore to obtain at least 500 tons of highgrade sorted to 5 or more per cent WO_3 content. This will be trucked to a custom tungsten mill about 25 miles distant and concentrated. It being a surface mining operation,the cost of mining will be low and by sorting to 5 per cent tungsten content under the lamp almost all of the waste will be eliminated and only the highgrade will be trucked and milled. From experiments conducted by myself it takes approximately 5 tons of the mine- run ore to obtain one ton of 5 per cent ore. The ore will be piled for sorting at the base of the vein zone and from there will be run thro a darkened shed built over the ore-bin on a platform conveyor and two men will work under an ultra-violet ray sorting lamp,throwing the highgrade in the bin and the low grade on the dump. The sorting will be a per diem basis under my direction but all othervphases of the work will be let by contract to local men.

The purpose of this operation is two fold: to determine if the exposed ore can be profitably mined and milled and to build up an operating fund for the purchase of mining and milling machinery,if successful. It is estimated that I can mine and sort enough ore every thirty days to obtain 100 tons of 5 per cent high grade. The mill will not take less than 100 tons and I will have the first hundred tons of high grade trucked and milled and then if this batch shows a profit will use the profit to produce the balance of 400 tons. A payment of 12½% of the Net Mill Returns will have to be paid the Columbia Tungsten Corporation as royalty. The balance will be paid on the loan if obtained.

There are several tungsten properties within hauling distance of the custom mill that are developed sufficiently to interest private capital for production and if this operation is feasible it could be used as a yardstick for production from these prospects.

(*b*) If deposit is other than placer: Exhibit 9.

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved) 1250 s.t.	3400 s.t.	%WO_3 1-1½	$63.00	$55.20	$16.00
Indicated (probable) 22,500	22,500	%WO_3 1-1½	$63.00	$55.20	$20.00

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads: Exhibit 10

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply: Exhibit 11.

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power: Exhibit 12

State amount of power used, rate per hour, and source thereof.

16. Labor: Inapplicable

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities: Exhibit 13

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain. Exhibit 14.

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.

(Name of company)

By Earl Jamison
(Signature of authorized official)

(Date)

Lessee
(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—63792-1

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

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

DO NOT FILL IN THIS BLOCK

Docket No. 520 X

Date received 5-8-51

Participation

E.H.Jamieson
414 East 17th Ave
Spokane 10 Washington

Name and address of applicant

Date May 5, 1951

FILL IN THIS BLOCK

Date of application May 5, 1951

Estimated cost $12,000.00

Mineral or metal Tungsten Ores

Percentage of Government participation 75%

Location of mine Sections 19 & 30, Twp. 32N, R38EWM

Summit Mining District, Stevens County, Washington

Date of filing MF-100

DMA Docket Number, if available 520X

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation? Individual

*2. If a partnership, state names and addresses of partners.

*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.

*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project. Exhibit A

*5. Are you the owner or the lessee of the property? Lessee

6. If owner, state what claims, liens, or encumbrances, if any, are against the property. None

7. If lessee, attach a copy of the lease and state if it is in good standing. Good standing Exhibit B

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement. Exhibit C

9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)? $3,000.00

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*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. Exhibit D

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

NOTE.—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 (*b*) 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.

*11. State the present and former names of the property, if any. Columbia Tungsten

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads. Exhibit E

*13. State source and quantity of water available for operations and its sufficiency at all seasons. Exhibit F
State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. Exhibit G

15. State in detail how the ore could be shipped and how and where milled. Exhibit H

*16. History: Exhibit I

(*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(*b*) State briefly the known history and production of adjoining and neighboring properties.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:

(*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)

(*a*) Describe the ore or mineral deposits briefly.

(*b*) Submit available maps and assay data.

(*c*) Give estimated tonnage and grade of each class of ore reserves.

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

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted? Tungsten

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. Exhibit J

NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data. Exhibit K

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each. Exhibit L

(*b*) Supervisors, by numbers and positions, with salaries of each.

(*c*) Cost of necessary repairs to existing facilities, structures, and buildings.

(*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.

(*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

(*f*) Cost of rental for equipment which the operator proposes to rent.

(*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.

(*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.

(*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent. Exhibit M

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.

(Name of company)	By E. H. Jamison (Signature of authorized official)
(Date)	Lessee (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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

Dma- 520

Spokane Washington

May 1 ,1951.

Defense Minerals Administration
Department of the Interior
Washington 25,D.C.

Gentlemen:

On January 23,1951 I submitted to you an application for a loan for big scale production on the property of Columbia Tungsten Corporation in Stevens County,State of Washington. This loan was refused on the ground that there was not enough ore developed to justify production on the scale stated in my application. Form NSRB-146.

On May 5,1951 I submitted to you an application on Form MF-103 for a 75% participation loan on the same property. This form probably has not as yet been processed. In this application I asked for a $9,000.00 loan for a diamond drilling contract of 2,000. feet for exploration of the ore bodies.

Since the date of application for the latter loan I discovered that there will be available in our locality a custom tungsten mill and I have contacted the parties who own the mill and have been assured that they would mill our ore in lots of 100 tons as soon as they had finished rehabilitating the mill. This will be completed by June 1 and they thought that by July 1,1951 that they could begin custom milling. This mill is 25 miles distant from our property on good roads.

I have contacted Mr.A.E.Wiesenborn of the Geological Division of the Department of the Interior at their Spokane office and told him what I had in mind. He handed me Form MF-100 and on that form I am submitting to you an application for a loan amounting to $10,000.00. This money is to be used to surface mine sufficient ore to obtain 100 tons of sorted ore of %WO_3 5 or better and the 100 tons of sorted ore is to be trucked to the custom mill and concentrated. The loan is to be repaid from cash derived from these concentrates. This is strictly a loan for operation and production of tungsten concentrates. The work will be let to individual contractors and there will be no money required for equipment as I have the sorting lamp. The contractors will furnish everything.

These operations are proving sucessful in Nevada,Arizona and California where there are milling facilities within fifty miles.

Following is a table of the nature of expenditures and the amount of cash applied for.

Nature of Expenditure	Amount
Contract for mining 500 tons of vein matter and "Chuting" to sorting pile	$2,000.00
Sorting 500 tons to 5 per cent grade(per diem)	2,000.00
Contract for trucking 100 tons of sorted ore to custom mill	500.00
Custom milling charges for 100 tons	800.00
	$5,300.00
Operating capital for mining and sorting an additional shipment of 100 tons of sorted ore	4,700.00
Total required	$ 10,000.00

The second shipment would be processed while waiting for returns from the first shipment.

E.H.Jamieson Applicant

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington.

COPY

Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA
FOR USE UNDER THE
DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. dma-520

Date received 5/18/51

E.H .Jamieson
414 East 17th Ave.
Spokane 10 Washington

Name and address of applicant

Date May 14,1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) ~~Necessity Certification Deductions of Internal Revenue Code 1950~~, (5) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (6) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

5

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?

   Exhibit 1

2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Exhibit 2

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.

   Exhibit 3

4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   ☐ Owner.
   ☐ Lessee.
   ☐ Contractor.

   Exhibit 4

5. Number of years in production .....
   If not in production or operation, estimated date when production will begin .....
6. Experience of operators:
   Describe the mining and general business experience of (*a*) ~~the~~ applicant, and (*b*) the person or persons who manage the project.

   Exhibit 5

7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

   Exhibit 6

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation		Life Insurance Carried for Benefit of Applicant	
				Common (e)	Preferred (f)	Amount (g)	Net Cash Surrender Value After Loans (h)
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$	$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)					
2. Quantity of product processed (specify unit of measure and type of process)					
3. Quantity and grade of product sold or shipped (specify units of measure)					

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change. Exhibit 7

12. Ore or Mineral Reserves: Exhibit 8

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

Form MF-100 Exhibit 1.

E.H.Jamieson 414 East 17th Ave. Spokane 10 Washington.

Question 1.
(a) Tungsten concentrates.
(b) Silver,molybdenum and iron pyrite.

Exhibit 2.

Question 2.
(a) No shafts
(b) Drifts 70 feet; crosscuts 40 feet.
(c) Adits 260 feet
(d) Discovery work on 15 claims

Adits are self draining.

Exhibit 3.

Question 3.
(a) Closet town Cedonia,Wash.-7 miles Southwest of mine.
Nearest shipping point Addy,Wash.-18 miles East of mine.
(b) Summit Mining District
(c) Twnp.32 N,Sec.19 & 30,Range 38Ewm.
(d) Stevens County,State of Washington.

Exhibit 4.

Question 4.
(a) Current development-E.H.Jamieson,Operator.
(b) Lessee and part owner.

Exhibit 5.

Question 6.

Mining experience:

Member Board of Directors of Metaline Mining and Leasing Company 1929 and 1930. Resigned on sale of that property to American Zinc.
Locator of Columbia Group of lode mining claims.
One of the Incorporators of Columbia Tungsten Corporation, a Washington corporation of $100,000.00 capitalization.
Secretary and Treasurer of same 1938 to 1941.
President and General Manager of same to 1949.
Lessee of Columbia Tungsten properties March 3,1949 to March 31,1952.
Supervision of current development of property.

Business Experience:

President and Manager of Jamieson Investment Company,a Washington corporation operating farm lands,orchards, apartment houses and business properties-1916 to 1939 when the corporation was voluntarily dissolved and liquidated.

Exhibit 6.

Question 7.

(a) An exploratory adit driven alonside the ledge for a distance of 196 feet proves the ore to a vertical depth of 100 feet. Seventy feet in from the poratl of this adit a crosscut has been driven to the east and south and at a point about twenty feet in from the adit this crosscut cuts a vein believed to be the wesrtern band of the parallel veins disclosed on the surface.This adit is at an elevation of 5,000 feet and is 1200 feet vertically below the crest of the mountain.
100 feet below the exploratory adit,a tunnel has been driven in a northeasterly direction for a distance of 65 feet.
Directly above the portal of the exploratory adit a drift has been driven on the vein exposure for a distance of 70 feet. The quartz lens is over ten feet in width at the prtal of the drift. There are three distinct quartz veins shown in the drift which is 5x7'.
An examination was made of the surface exposures at night,using the ultra-violet ray lamp. The area was "checkerboarded" in 25 foot squares and examined for tungsten fluoresence.
In 1950 the mineralized zone was diamond drilled- in a southeasterly direction from the portal of the drift for a distance of 95 feet and in a northeasterly direction for a distance of 100 feet. Lack of finances shut down this drilling.

(b) The Washington Metals,an adjoining property consisting of two patented claims has a record of surface trenching of the veins, and a small underground production. This operation was suspended in 1938 and the amount of their production is not recorded.
The "Germania Mine",situated on the same range of mountains as Columbia Tungsten was originally operated by the German Government until we entered World War I. They operated for over five years. No records are available as to the amount of their production and in the years between the abandonment of the Germania by the Germans and the purchase of the property by General Electric there are no production figures available. However the Geology Division of the State of Washington gives a production record of the Germania under G.E. ownership as 1250 tons of high grade tungsten concentrates. Private individuals are working the Germania at present.
Germania Consolidated,adjoining the Germania,has a record of over $100,000.00 production and at present this company is rehabilitating their 50 ton mill and intend to start production and custom milling within 60 days. The applicant intends to truck his highgrade ore to this mill this summer.

(c) "As exposed by the ore exploratory tunnel on the Columbia No.3 claim, the ore deposits occupy fissures in granite and have been developed by tunnel and crosscuts underground for a distance of 75 feet along its strike and 250 feet on the supposed continuation of the vein. Its vertical depth has been proven for a distance of 100 feet and extensive surface workings lead to the supposition that it extends to the top of the mountain which is 1200 feet above the discovery strike. The average width of the orebody is about three feet,although in some places it is over six feet wide and in others it narrows to four inches. This is characteristic of lenticular veins. It is in the narrower widths that the enrichment is the strongest,assays of cross-samplings having returned as high as 15 per cent tungsten content. Over the average width of the ore-body,as exposed, one and one-half to two per cent is a conservative value,as shown by assays.

Exhibit 6-cont.

Post mineral faulting has in many places broken the continuity of the veins. These breaks run from east to west, which is the identical geological situation found in the "Germania Mine". Such displacements run from 7 to 30 feet.

The vein filling is chiefly quartz of the massive variety which is mostly white in color, but in some cases gas a slightly bluish tint. It also contains some black tourmaline and green fluorite as well as some pyrite.

The veins are mineralized in a more or less pockety manner by a ferberitic wolframite with which is associated scheelite and pyrite and molybdenum.

You have in these claims the ideal setup for cheap and extensive mining and production. As far down as the 1200 foot level, all ore can be taken out by gravity, thus eliminating the expense of hoisting ore and sinking shafts. It is a demonstrated fact that surface mining of tungsten is the cheapest and fastest method known and in view of the amount of tungsten ore and the size of the ore-shoots on the surface, I recommend that surface mining be carried on in conjunction with underground development. It would be very easy to produce enough ore in this manner to run a mill of 25 tons daily capacity. The cash returns from your milled concentrates will more than pay the cost of development, once your mining and milling machinery is installed. Ore bunkers should be constructed to take care of the excess ore until development warrants a larger mill"

(Signed) F.M.Handy E.M.
Spokane Wash.

Exhibit 7.

See details in Exhibit 14.

Exhibit 8.

See exhibit 6-report on ore deposits by F.M.Handy, E.M.

Geology: The Summit district lies in west central Stevens County along Columbia River, having as its eastern boundary the great quartzite ridges known as the Huckleberry Mountains. It includes most of townships 32 to 34 N. of ranges 37 and 38 EWM.

Maximum elevations are 6,000 feet above sealevel, giving total relief of about 4,500 feet above the level of the lake formed by the Grand Coulee Dam. Drainage is all westward to the Columbia thro Harvey and Stranger creeks and a number of lesser, mainly intermittent, short streams.

As mapped by Weaver, the rocks of the district include the Mission argillite, the Colville quartzite, the Chewelah argillite and some undifferentiated limestone, all belonging to the Stevens series of Paleozoic age. These have been intruded by a small stock of the Loon Lake granite, which is locally nearly as basic as diorite in this area. In general the sedimentary beds dip away from the intrusive, but fault ing has produced a reversal in many places, giving rise to rather complicated structures. Three properties, the Daisy, Columbia Tungsten and Washington Metals have shown the occurence of tungsten.

Exhibit 8-cont.

The Columbia Tungsten Corporation holds 15 claims in Sections 19 and 30, Twp. 32 N, Range 38 EWM. The veins being developed lie a quarter mile north of the Addy-Bissel road that joins State Highway 22 at a point 2 miles north of Cedonia.
The claims are situated immediately west of the divide between Columbia River and Mill Creek, the latter being a tributary of Colville River. Much of the area is forested, particularly the northern slopes. Water is obtainable from streams and springs.
The country rock is a porphrytic granite whose surficial area is about 2½ sq. miles; it is intrusive into gray arkosic quartzites and argillites of the Stevens series. A few hundred feet from the west contact the granite is cut by quartz veins that trend north-northeast and dip from 50 to 90 degrees, mostly southeast. These veins are exposed on the barren mountain side for a distance of over four hundred feet . The mountain side is steep-averaging 45 degrees in pitch.

Exhibit 9.

(1). Surface assays across veins of quartz running up the area to be mined (parallel bands averaging one foot in width into which "gash or feeder" veins intrude) taken every feet feet from the portal of the adit total an average of better than 2% WO_3 for a distance on the surface of 400'. Hand concentration of a "batch sample of 300 pounds of mine run ore taken out of the drift(5' in width) produced 6½ pounds of WO_3 concentrate 61.37%WO_3. The continuation of these veins has been proved for a length of 196 feet underground by the exploratory adit and their vertical depth has been established for 100 feet. The indicated reserve is estimated at a length of over 400 feet and a depth of 300 feet.
(2) Proven ore reserve 3400 tons(short tons)
Indicated ore reserve is estimated at 22,500 short tons.
Formula used:
Cubic foot content determined: $\frac{\text{Length x Depth x Width}}{2}$ equals volume.
8 cu.ft. of ore in place equals 1 short ton.

Exhibit 10.

To RR shipping point - 18 miles. 5 miles of dirt road-balnce hard surfaced.
Access to supply point -26 miles.5 miles dirt - balance hard surfaced.
To custom mill 25 miles- 15 miles dirt- balance 10 miles hard surface.

Exhibit 11.

Sufficient water for camp and mining purposes is available the year round from drainage of adits.

Exhibit 12.

Gasoline or Diesel power for compressor.

Exhibit 13.

Combination bunk and cookhouse for 6 men. Good condition.Outbuildings.
Ore-bin 30x10x12 with trackage overhead. Ore gates for loading trucks.
No major mining equipment as all work has been done by contracting.

Exhibit 14.

The tungsten ores in this deposit are ferberitic wolframite and scheelite. The wolframite mineralization occurs mainly in the quartz gangue and in most cases is surrounded and filmed over by small scheelite crystals causing good fluorecsence and thus making it easy to sort under the violet-ray lamp. The scheelite also occurs to shallow depth in the granite enclosing the veins. A brownish scheelite occurs in large crystals in the gray quartz.

As the operation of highgrading scheelite ores has been sucessfully carried in small deposits I have arrived at a program for mining and sorting the ores contained in the quartz veins which should be a profitable operation on a small scale. It is my intention to mine and sort enough ore to obtain at least 500 tons of highgrade sorted to 5 or more per cent WO_3 content. This will be trucked to a custom tungsten mill about 85 miles distant and concentrated. It being a surface mining operation, the cost of mining will be low and by sorting to 5 per cent tungsten content under the lamp almost all of the waste will be eliminated and only the highgrade will be trucked and milled. From experiments conducted by myself it takes approximately 5 tons of the mine- run ore to obtain one ton of 5 per cent ore. The ore will be piled for sorting at the base of the vein zone and from there will be run thro a darkened shed built over the ore-bin on a platform conveyor and two men will work under an ultra-violet ray sorting lamp, throwing the highgrade in the bin and the low grade on the dump. The sorting will be a per diem basis under my direction but all otherv phases of the work will be let by contract to local men.

The purpose of this operation is two fold: to determine if the exposed ore can be profitably mined and milled and to build up an operating fund for the purchase of mining and milling machinery, if successful. It is estimated that I can mine and sort enough ore every thirty days to obtain 100 tons of 5 per cent high grade. The mill will not take less than 100 tons and I will have the first hundred tons of high grade trucked and milled and then if this batch shows a profit will use the profit to produce the balance of 400 tons. A payment of 18% of the Net Mill Returns will have to be paid the Columbia Tungsten Corporation as royalty. The balance will be paid on the loan if obtained.

There are several tungsten properties within hauling distance of the custom mill that are developed sufficiently to interest private capital for production and if this operation is feasible it could be used as a yardstick for production from these prospects.

(*b*) If deposit is other than placer: Exhibit 9

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)	3400 s.t.	%WO_3 1-1½	$63.00	$55.20	$16.00
Indicated (probable)	22,500	%WO_3 1	$63.00	$55.20	$20.00

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads: Exhibit 10

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply: Exhibit 11

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power: Exhibit 12

State amount of power used, rate per hour, and source thereof.

16. Labor: Inapplicable

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities: Exhibit 13

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain. Exhibit 14

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.

(Name of company)

By Est Jamieson
(Signature of authorized official)

(Date)

Lessee
(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—63792-1

L.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit A

Mining Experience:

Member Board of Directors of Metalino Mining and Leasing Company 1959 and 1960.

Incorporator of Columbia Tungsten Corporation, a Washington corporation, 1939.
Secretary and Treasurer of same to 1941.
President and General Manager of same to 1949.
Lessee of Columbia Tungsten Property.
Supervision of exploratory work 1950.

Business Experience.
President and Manager of Jamieson Investment Company, a Washington corporation operating farm lands, orchards, apartment houses and business properties. 1916 to 1959 when corporation was dissolved.

Quincy 520 (Cont.)

P36

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington.

Question 7. Exhibit B.

LEASE AND OPTION TO PURCHASE MINING CLAIMS

THIS INDENTURE made and entered into at Spokane, Washington this 3rd day of March, 1949, by and between Columbia Tungsten Corporation, a corporation organized and existing under the laws of the State of Washington with headquarters at Spokane, herein called the Company, and E.H.Jamieson, the President of said Company, and promotor of a group or syndicate being formed to finance the operation of the Company's mining claims under the provisions of this lease and option, herein called the lessee, WITNESSETH:

That the said Company, for and in consideration of the royalties hereinafter reserved, and the covenants and agreements hereinafter expressed, and by the said lessee to be kept and performed, hereby grants, demises and lets to the said lessee all of the following described mine, mining claims and property, situated in Sections 19 and 20, Twp.38 North, Range 38, E.W.M., in the Summit Mining District, in Stevens County, State of Washington, to-wit:

The Columbia No.3 and Columbia No.4 Lode Mining Claims, Survey Lot No.1827; The Columbia No.1, the Columbia No.2, the Columbia No.5, the Columbia No.6, the Columbia No.7, the Santa Fe No.1, the Santa Fe No.2, the Santa Fe No.3, the Santa Fe No.4, the Santa Fe No.5, the Santa Fe No.7, the Santa Fe No.9, and the Santa Fe No.10 Lode Mining Claims, together with the appurtenances; with full right to mine and remove therefrom all ores and minerals containing Tungsten, Molybdenum, Uranium, Columbium, Titanium, Platinum, Gold, Silver, Lead, Zinc, Tin and all other ores and minerals found in and upon said premises.

TO HAVE AND TO HOLD unto the said lessee, his associates and assigns, for the term of three(3) years and twenty-eight days from the date hereof, said term expiring at twelve o'clock noon on the 30th day of March, 1952 unless sooner forfeited and determined through the violation of any covenant hereinafter against the said lessee reserved.

IN CONSIDERATION of such demise, the said lessee covenants and agrees with the said Company as follows, to-wit:

1. To enter upon said mine and premises and work the same mine fashion in the manner necessary to good and economical mining, so as to take out the greatest amount of ore possible, with due regard to the development and the preservation of the same as a workable mine.
2. To work and mine said premises as aforesaid steadily and with sufficient personnel and equipment to produce at least one minimum shipment of 100 tons of tungsten ore and ship the same to a regular ore buyer or to a custom mill for treatment, such work to start within a reasonable time after weather and road conditions will permit entry to said property and work to begin thereon.
3. To repair all old timbering wherever it may become necessary, and to well and sufficiently timber said mine and mining premises at all points where necessary and in accordance with good and safe mining; and to allow said Company and its agents from time to time to enter upon and into all parts of said mine for purposes of inspection.

4. To occupy and to hold as the property of the Company all cross and parallel lodes, spurs and mineral deposits of every kind which may be uncovered disclosed or discovered within the confines of said leased premises by the lessee or persons in privity with or working under him, with privilege to said lessee to work and mine the same as part and parcel of said leased premises.

5. To not assign this lease or any interest thereunder except to the group or syndicate contemplated by statements in the opening paragraph, or preamble, of this indenture, or to a corporation to be formed by such syndicate to conduct operations under this lease, and to not sublet said premises or any part thereof without written assent of said Columbia Tungsten Corporation, and to not allow any person not in privity with the parties hereto totake or hold possession of said premises or any part thereof under any pretense whatsoever.

6. To keep, at all times, the drifts, shafts, tunnels and other workings drained and clear of loose rock and rubbish, unless prevented by extraordinary mining casualty. To do no underhand stoping, and to make all shafts 7 feet long and 5 feet wide in the clear, and all drifts and tunnels 7 feet high by 5 feet wide in the clear.

7. To pay to the Company as royalty ten(10%) per cent of the net mill returns of all ore extracted from said premises by delivery of such ore with all convenient speed in lots as mined and graded to some custom mill or regular ore buyer. NET MILL RETURNS shall mean such sums as are paid for the values in the ore or any product thereof, after deducting therefrom the actual costs of sorting the ore and transporting it from the mine to the mill or to the ore buyer, together with treatment and assay costs and charges. All royalties shall be paid to the Company forthwith upon receipt of payment by the lessee for each individual shipment or sale of ore to said custom mill regular ore buyer in lots made from time to time as aforesaid.

8. To at all times fully comply with the provisions of the Workmen's Compensation Act of the State of Washington and all other State laws pertaining to work of this character. To comply with the National Security Act and all other laws applying to operations under the provisions of this lease.

9. To deliver to said Company the said premises together with all improvements in good order and condition, with all drifts, shafts, tunnels and other passages clear of loose rock and rubbished and drained and the mine ready for immediate continuous working(accident arising from any cause but negligence alone excusing) without demand or further notice, on the 31st day of March, 1952, at noon or at any time previous in case of forfeiture of this lease and demand for possession by the Company.

10. It is expressly covenanted and agreed that no obligation of any kind or nature shall be imposed upon or incurred by the lessor Company by virtue of this lease other than as specifically set forth herein, and that the lessee shall pay the costs of all operations hereunder and shall hold the Company safe from all liens, judgments, and claims of whatever nature; and that the said E.A.Jamieson is an independent lessee and operator and that the Company is not liable for personal injuries that may occur to the lessee or to any of his associates, partners, employees, contractees or to any third person or persons.

11. Upon violation of any covenant or covenants herein reserved and by the lessee to be kept and performed, the terms of this lease shall, at the option of said Company, expire, and the same and the said premises with the appurtenances shall become forfeit to the Company; and the said Company, or its agent may thereupon, after demand for possession in writing, enter upon said premises

and dispossess all persons occupying the same, with or without force and with or without process of law.

12. And finally, in consideration of the acceptance of the foregoing lease and the expenditures to be made thereunder and the well and faithful keeping of the covenants thereof, the said lessee shall have the right and option to purchase all or any part of the mining property hereinabove described for a consideration of THREE HUNDRED THOUSAND($300,000.00) DOLLARS, which shall be payable in royalties at the rate of 12½% of the NET MILL RETURNS, such payments of royalty to be made but once during each calendar year on all ores shipped and mined during that year, instead of upon each separate lot as mined and shipped during the year as provided in paragraph 7 above.

13. Upon notice in writing to the Columbia Tungsten Corporation by the said lessee of his intention to exercise the foregoing option, the said Corporation shall forthwith prepare and execute a good and sufficient deed transferring the said mine, mining claims and property to the lessee, or to the syndicate or corporation referred to in paragraph 8 of said lease, and such deed together with this lease and option contract shall be placed in escrow in some bank in Spokane selected by the lessor Company and shall be there held in escrow during the life of this lease and option contract. The escrow fees incident thereto shall be born in equal proportions by the parties hereto.

14. After the option to purchase has been exercised the purchaser thereunder shall have the right at any time during the life of the option contract to tender the full amount of the unpaid purchase price and on payment being made the transfer deed shall be delivered to the purchaser.

15. All covenants and agreements for operations under said lease as hereinabove expressed in paragraphs 1 to 10 thereof, are by reference made a part of this option contract, and shall be kept and performed by the purchaser thereunder, and the said option contract shall be subject to forfeiture for violation of any of such covenants in the manner and form as provided in paragraph 11 of said lease.

16. The purchaser under said option contract shall keep proper books of account in which shall be entered all items of expense incurred in his operations under said contract for sorting, transporting and treating or milling of said ores during the period of each calendar year, and the amounts received for all ores delivered to said mill or regular ore buyer, which said accounts shall be open at all reasonable times to inspection and examination by the said Columbia Tungsten Corporation.

Each and every clause and covenant of this indenture shall extend to and be binding upon the heirs, executors, administrators and lawful assigns of each and all of the parties hereto.

IN WITNESS THEREOF, the parties hereto have affixed their legal signatures ans seals, all being done in the City of Spokane, State of Washington, on this 3rd day of March, in the year 1949.

COLUMBIA TUNGSTEN CORPORATION
By,
Geo. W. Duncan
Its Vice-President

Attest:
Arthur L. Hooper
Secretary

Corporate Seal

E.H.Jamieson (Seal)
Lessee.

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit B

State of Washington)
) ss:
County of Spokane)

On this 3rd day of March,1949,before me personally appeared GEO.W.DUNCAN to me known to be the vice-president of the corporation that executed the within and foregoing instrument,and acknowledged said instrument to be the free and voluntary act and deed of said corporation,for the uses and purposes mentioned therein,and on oath stated that he was authorized to execute said instrument and that the seal affixed is the corporate seal of said corporation.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal the day and year first above written.

H.F.Bradley
Notary Public in and for the State of Washington,residing at Opportunity,Wn.
Commission expires Aug.17,1949.

(Notarial Seal)

* * * * * * * *

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit C

ASSETTS		LIABILITIES	
Stocks - - - -	$7,700.00	Notes payable - - -	none
Cash - - - -	2,000.00	Accounts payable -	none
Mining equipment	500.00	Surplus	$10,200.00
Total -	$10,200.00	Total	$10,200.00

Profit and loss Statement. 1950.

Operating capital	$10,000.00
Exploration costs	7,000.00

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit D

Two patented lode mining claims of the Columbia Group,Mineral Survey No. 1237.

Legal description Section 19,Twp.32 North,Range 38 E.W.M. Stevens County, State of Washington.

Exhibit E

Location:

7 miles north and east from the town of Cedonia which is located on Washington State Highway 22. A county road from this highway passes the foot of the property and our own road of three-quarters of a mile runs to the portal of the tunnel on Columbia Claim No.3. As farmers live within one-half mile of the property,this road is open the year round.

18 miles west of the town of Addy,Washington which is located on the Great Northern Railway and is the closest shipping point. Oiled roads connect with the county road mentioned above with steep grades over the Huckleberry Range of Mountains. Road passable if plowed in Winter.

Another shipping point is Davenport,Washington which is located 44 miles west of Spokane on the Northern Pacific Railway. Highway 22 runs into Davenport which is 50 miles distant from the mine.

Distance from Spokane Washington is 94 miles by way of Davenport, 85 miles by way of Addy,Washington.

Exhibit F

Water supply:

Springs and water being made in the adits has been sufficient for compressor and diamond drill machine and camp use.

Power:

Gasoline or Diesel.

Exhibit G.

Small tools,mine cars,ultra-violet lamps,cabin,ore bunker and outbuildings.

Exhibit H.

By truck to Addy,Washington,by rail to Davis California to Tulare County custom mill which at present is the closest tungsten custom mill. There is a possibility of a tungsten mill being operated 35 miles from the property this Summer. To be shipped the ore should be sorted under an ultra-violet ray lamp and hi-graded as freight rates prohibit shipping mine run ores as shown by making a test of a batch sample.If commercial ore is found in good quantities on this property a small mill should be installed. The ore is Wolframite with scheelite associated with it.

E.H.Jamieson
414 East 17th Ave.
Spokane Washington.

Exhibit I.

Exploration: (a)

An adit has been driven on the 1200 foot level in a northwest direction for a distance of 200 feet. This tunnel follows the vein for a distance of 15 feet and then turns west and is driven alongside the ledge in a fault. About 70 feet in from the portal a crosscut to the east has been driven for forty feet and about 17 feet in from the tunnel a quartz vein three and one-feet wide has been cut. An assay of a sample takenacross the width of this vein returned 3.7% WO_3. The rock enclosing this vein is a porphrytic granite. This work was done prior to the aquisition of the property by Columbia Tungsten Corporation and was driven by hand, which fact probably accounts for the tunnel leaving the vein as the fault is in broken ground and driving by hand was easier.

Directly above the portal of this exploratory tunnel a drift was started on an exposed quartz lens and driven in the mountain for a distance of 70 feet. The ore taken out in this operation was placed in an ore bin 30x12x10 feet in dimension and a representative sample of 300 lbs. of this ore was concentrated and assayed. Returns on this sample gave 2½% WO_3 content. There are three quartz veins disclosed in the roof of this drift and tungsten mineralization shows under the ultra-violet lamp. These veins are lenticular in nature- swelling and pinching throughout their course. The enclosing granite is strongly jointed and stratified and concentration of scheelite crystals is very prominent in the joints. The quartz veins appear to be mainly mineralized with wolframite crystals. These crystals are filmed over and surrounded with small scheelite crystals, causing the wolframite to fluoresce.

The quartz veins are exposed on the surface of the mountain side, which has a steep pitch, for a distance of 400 feet up the mountain from the 1200 foot level and have been opened at intervals by blasting. These veins trend north-northeast and dip from 50 to 90 degrees, mainly southeast. They are irregular in course and attain a maximum thickness of 7 to 12 inches. Further up the mineralized zone these veins attain a maximum thickness of 12 to 14 inches.

This area is on Columbia Claim No.3, which is the site of the proposed exploration has been examined on the surface at night with the ultra-violet lamp and shows fluorescence of scheelite in the granite which encloses these quartz veins.

(b) Two patented claims belonging to Washington Metals adjoin Columbia No.4, Columbia No.1, and Columbia No.6 on the east and north. The veins run from east to west and have been trenched to a depth of six feet on the ridge of the mountain. A tunnel driven from the north slope of the mountain 100 feet below the crest has opened these veins and some stoping and production was done in 1939. No record is available of the amount of production and these workings are caved in at present. The ore was hubnerite. Tungsten ores were taken out during World War I from the trenching done on the ridge.

(c) Results of mine examinations show that there is not a sufficient amount of ore blocked out to denote a commercial operation without further exploration and the following program has been recommended for exploration of the mineralized zone and ore exposed on the surface on Columbia Claim No.3, and in addition one underground diamond drill hole to test for the downward extension of and the character of the mineralization in the quartz veins exposed on the surface and in the workings.

No.1 hole is marked on the surface by a steel pin 60 feet northwest of the portal of the upper tunnel. Another steel pin on the surface in a south 65 degrees east direction marks the direction in which it was laid out to be driven. I am afraid the quartz which displaces the quartz at the portal of the middle tunnel will displace it enough so that the course laid out will miss the quartz. I suggest therefor that the hole be driven 20 degrees further to the left in a south 85 degrees east direction at a down angle of 45 degrees for a distance of 150 feet.(This hole encountered a "water break-down" in a 121 feet and water rose thro the hole.)

No.2 hole marked by a steel pin is to start 75 feet a little north of west of the portal of the middle tunnel and is to be driven south 60 degrees east at a down angle of 45 degrees for 150 feet. The direction is marked on the ore bin in yellow crayon.

No.3 hole. I have added a third hole to start at a point 7 feet from the face of the middle tunnel, to be driven south 60 degrees east at a down angle of 20 degrees for a distance of 200 feet. This hole is to be preferred over No.2 if you wish to limit the drilling to two holes at this time.

Yours very truly,
(Signed) P.E.Oscarson.

JOHN HERMAN LABORATORY.
920 Santee St. Los Angeles 15,Cal.

Report of Spectographic Qualitative Analysis.
Made for W.H.Stowell & Co. Date Feb.14,1951.

"Jamieson"

ELEMENT	
Tungsten) Silicon)	Main Constituents
Calcium	10%
Iron	1%-10%
Aluminum	1%-10%
Potassium	1%-10%
Magnesium	1%
Manganese	1%
Zinc	1%
Sodium	0.1%-1%
Copper	0.01%-1%
Titanium	0.01%-1%
Strontium	0.01%
Barium	0.01%

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington.

Exhibit I.(c)

Lead - - - - - - - - - - - - - - - - -0.01%
Boron - - - - - - - - - - - - - - - - 0.01%
Tin - - - - - - - - - - - - - - - - -0.01%

Vanadium - - - - - - - - - - - - - - 0.001%- 0.01%
Gallium - - - - - - - - - - - - - - 0.001%- 0.01%
Chromium - - - - - - - - - - - - - - 0.001%-0.01%
Molybdenum - - - - - - - - - - - - - 0.001% - 0.01%
Bismuth - - - - - - - - - - - - - - 0.001% -

Rare Earths - - - - - - - - - - - - -Trace
Silver - - - - - - - - - - - - - - - -Present

Estimated Quantitives to the nearest factor of Ten.

(Signed) John Herman,Chemist.

* * * * * * * * * * * * * * *

Analysis of concentrates and middlings made by U.S.Vanadium Corp.
"Jamieson" Date Oct.25,1950.

Middlings:
Acid soluble %WO_3 - - - - - - - -23.25
Total %WO_3 - - - - - - - - - - - 27.87
Concentrates(fine)
Acid soluble %WO_3- - - - - - - - 38.91
Total %WO_3 - - - - - - - - - - - 48.02
Concentrates(coarse)
Acid soluble %WO_3 - - - - - - - -42.52
Total %WO_3 - - - - - - - - - - -71.08

* * * * * * * * * * * * * * * * *

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington.

Exhibit J

Proposed exploration:

Starting 100 feet above the portal of the exploratory tunnel to drill the mineralized zone from east to west(transversally) at an angle of 80 degrees down every 50 feet for a distance of 400 feet up the surface of the mountain. The purpose is to cut the quartz veins exposed in the zone and explore to the contact on the west boundaries of Columbia Claim No.3.

Proposed diamond drill footage - 2,000 feet.

Estimated time - 3 months.

* * * * * * *

Exhibit K.

The country rock is a porphrytic granite whose surficial are is about 2½ square miles; it is intrusive into gray,arkosic quartzites and argillites of the Stevens series. The outstanding feature of mein deposits of tungsten is that they invariably occur in close association with granitoid rocks. These may be true granites or have the mineral composition of slightly more basic rocks,but they are generally light in color and show more or less free quartz. In many instancies the veins carrying tungsten lie near the contact of the intrusive granitic rock with the surrounding country rock,either in the granite itself or in the adjacent formation. In general the tungsten minerals will be found near the margin of the intrusive granite rather than deep within it. Thus in Stevens County all veins lie near the contact of the Loon Lake granite with the metamorphic rocks of the Stevens series.(See map of Geology of Columbia Tungsten & Washington Metals area).

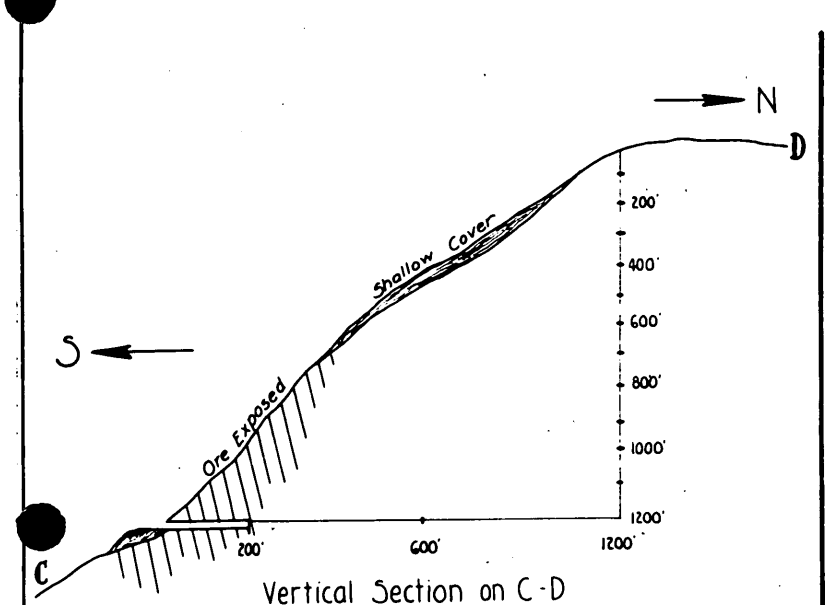
Sample Mark.		
1.	Across 14" of vein at portal of adit - - - - - - - -	$\%WO_3$ -6.3
2.	Surface exposure 50 feet north of portal - - - - -	$\%WO_3$ -14.7
3.	Open cut near west contact - - - - - - - - - - - -	$\%WO_3$ -6.4
4.	Surface exposure 150 feet north of portal - - - - -	$\%WO_3$ -10.9
5.	Sample across 3½ feet in crosscut - - - - - - - - -	$\%WO_3$ -3.7
6.	Vein exposure 200 feet north of portal - - - - - -	$\%WO_3$ -9.83
7.	Sample across 8 inches in drift - - - - - - - - - -	$\%WO_3$ -11.0
8.	Sample across vein 6 inches in drift - - - - - - -	$\%WO_3$ -7.1
9.	Sample across face of drift-5 feet in width - - - -	$\%WO_3$ -1.58

All mining and milling of the ores on Columbia Claim No.3 can be done by gravity-eliminating sinking of shafts and hoisting of ore.

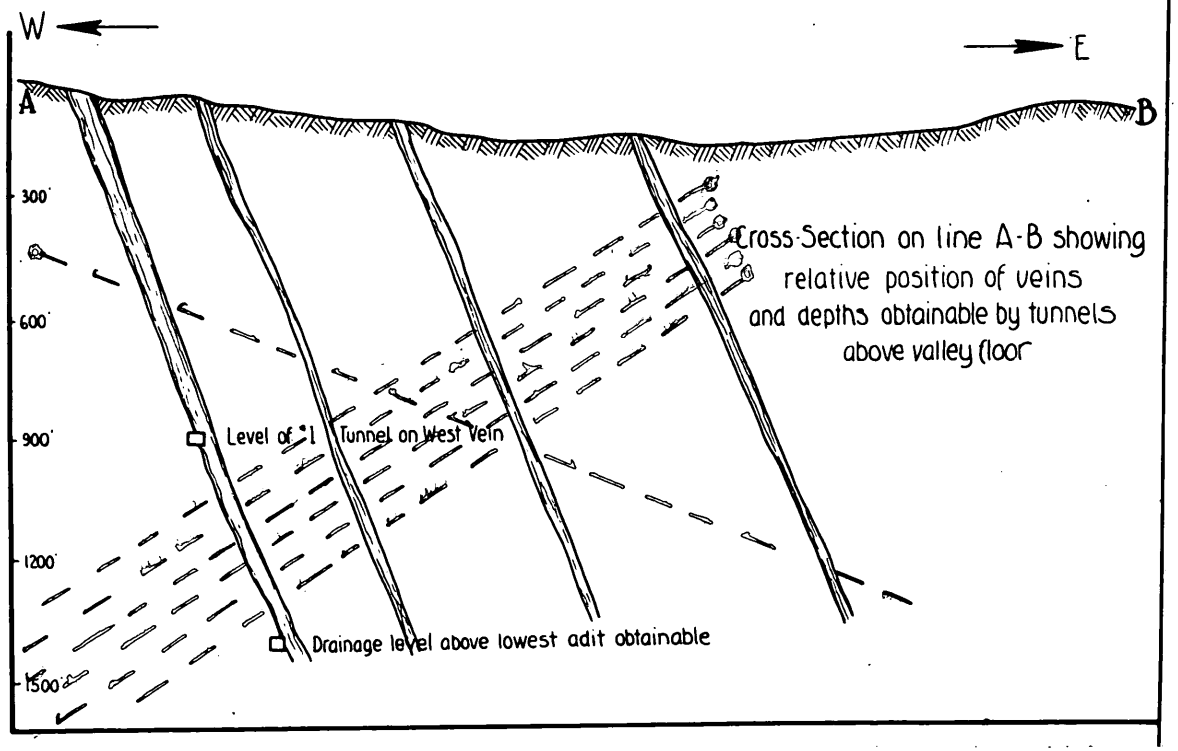
E.H.Jamieson
414 East 17th Ave
Spokane 10 Washington

Exhibit J

COLUMBIA GROUP OF TUNGSTEN CLAIMS



Vertical Section on C-D
in plane of Vein # 1
Illustrates steep rise and depths
developed by 1200' Tunnel

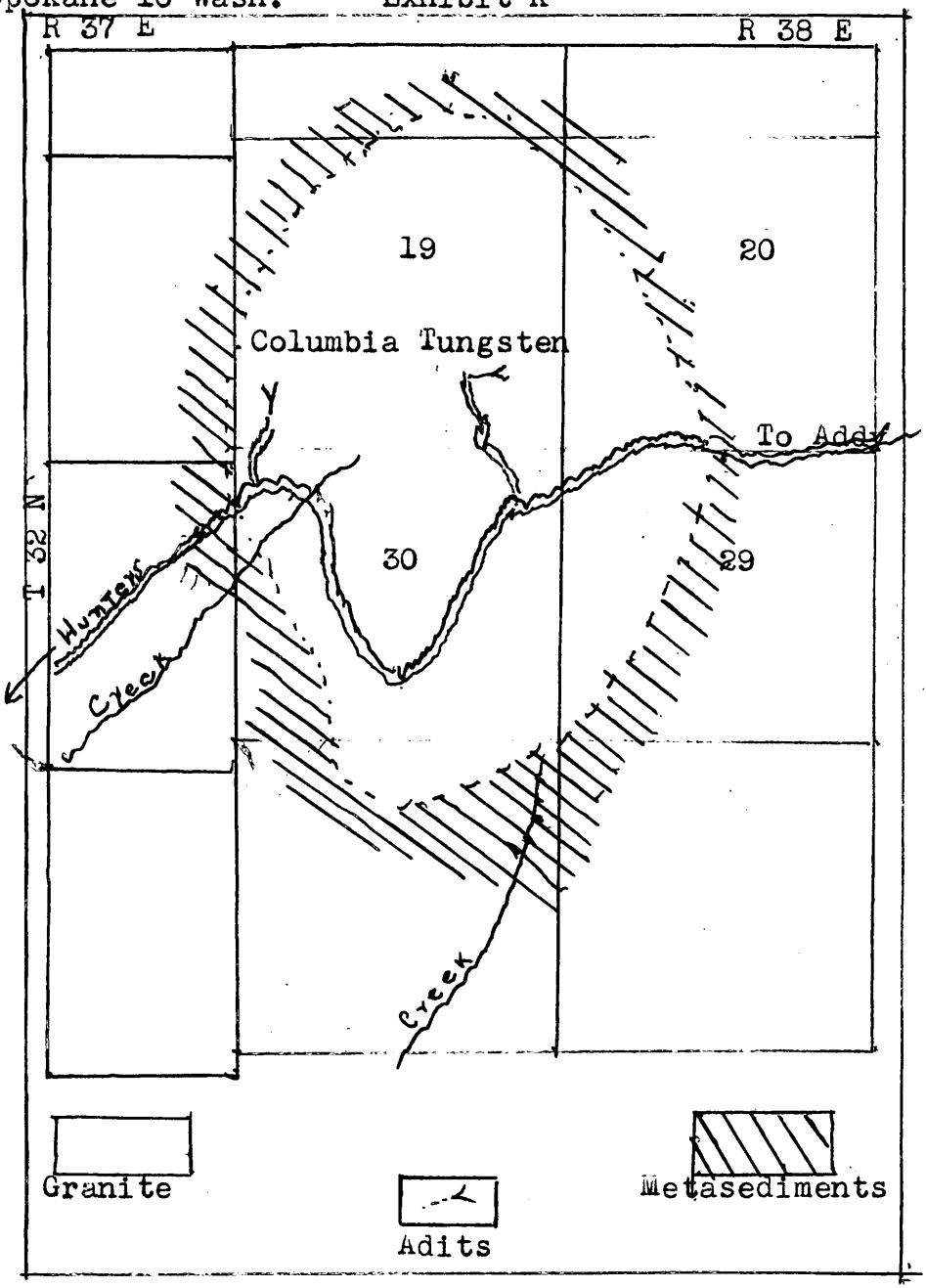


Cross-Section on line A-B showing
relative position of veins
and depths obtainable by tunnels
above valley floor

F.M.Handy E.M.
Spokane Wash.

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Wash.

Exhibit K



Geology of Columbia Tungsten-Washington Metals

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit L.

Estimated costs and requirements of project.

	Contract cost per foot for core drilling-2,000 feet @ $5.00 per foot on surface	$10,000.00
(a)		none
(b)	1 Supervisor @ $300.00 per month-3 months	900.00
(c)	Repairs to camp cabin	250.00
(d)		none
(e)		none
(f)	125 portable compressor, air hose and receiver	750.00
(g)	Core boxes 40 @ $5.00 each	200.00
(h)	Ultra-violet lamp upkeep - Batteries	48.00
(i)	Gas for compressor to operate air motor	150.00
		$12,298.00
	Less gas for compressor, transportation on compressor	250.00
	Total	$12,098.00

* * * * * * *

Exhibit M.

Completion of drilling as outlined - 3 months after approval.
Money expected to be spent - $12,000.00

* * * * * * * *

Finis.

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

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

DO NOT FILL IN THIS BLOCK

Docket No. 520 X

Date received 5-8-51

Participation

E.H.Jamieson
414 East 17th Ave
Spokane 10 Washington

Name and address of applicant

Date May 5,1951

FILL IN THIS BLOCK

Date of application May 5,1951

Estimated cost $12,000.00

Mineral or metal Tungsten Ores

Percentage of Government participation 75%

Location of mine Sections 19 & 30,Twp.32N,Range 38EWM

Summit Mining District,Stevens County,State of Washington

Date of filing MF-100

DMA Docket Number, if available 520 X

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation? Individual

*2. If a partnership, state names and addresses of partners.

*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.

*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project. Exhibit A

*5. Are you the owner or the lessee of the property? Lessee

6. If owner, state what claims, liens, or encumbrances, if any, are against the property. Not any.

7. If lessee, attach a copy of the lease and state if it is in good standing. Good standing Exhibit B

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement. Exhibit C

9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)? $3,000.00

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*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. Exhibit D

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

NOTE.—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 (*b*) 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.

*11. State the present and former names of the property, if any. Columbia Tungsten

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads. Exhibit E

*13. State source and quantity of water available for operations and its sufficiency at all seasons. Exhibit F
State amount of power to be used, rate per hour or other cost, and source.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. Exhibit G

15. State in detail how the ore could be shipped and how and where milled. Exhibit H

*16. History: Exhibit I

(*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(*b*) State briefly the known history and production of adjoining and neighboring properties.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:

(*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)

(*a*) Describe the ore or mineral deposits briefly.

(*b*) Submit available maps and assay data.

(*c*) Give estimated tonnage and grade of each class of ore reserves.

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

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted? Tungsten

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. Exhibit J

NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data. Exhibit K

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each. Exhibit L

(*b*) Supervisors, by numbers and positions, with salaries of each.

(*c*) Cost of necessary repairs to existing facilities, structures, and buildings.

(*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.

(*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

(*f*) Cost of rental for equipment which the operator proposes to rent.

(*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.

(*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.

(*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent. Exhibit M

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.

(Name of company)	By Est Jamieson (Signature of authorized official)
(Date)	Lessee (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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit A

Mining Experience:

Member Board of Directors of Metaline Mining and Leasing Company 1929 and 1930.

Incorporator of Columbia Tungsten Corporation,a Washington corporation,1938.
Secretary and Treasurer of same to 1941.
President and General Manager of same to 1949.
Lessee of Columbia Tungsten Property.
Supervision of exploratory work 1950.

Business Experience.

President and Manager of Jamieson Investment Company,a Washington corporation operating farm lands,orchards, apartment houses and business properties. 1916 to 1939 when corporation was dissolved.

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington.

LEASE AND OPTION TO PURCHASE MINING CLAIMS

THIS INDENTURE made and entered into at Spokane,Washington this 3rd day of March,1949,by and between Columbia Tungsten Corporation,a corporation organized and existing under the laws of the State of Washington with headquarters at Spokane,herein called the Company,and E.H.Jamieson,the President of said Company,and promotor of a group or syndicate being formed to finance the operation of the Company's mining claims under the provisions of this lease and option,herein called the lessee, WITNESSETH:

That the said Company, for and in consideration of the royalties hereinafter reserved,and the covenants and agreements hereinafter expressed,and by the said lessee to be kept and performed,hereby grants,demises and lets to the said lessee all of the following described mine,mining claims and property,situated in Sections 19 and 30,Twp.32 North,Range 38,E.W.M.,in the Summit Mining District,in Stevens County,State of Washington,to-wit:

The Columbia No.3 and Columbia No.4 Lode Mining Claims,Survey Lot No.1237; The Columbia No.1,the Columbia No.2,the Columbia No.5,the Columbia No.6,the Columbia No.7,the Santa Fe No.1,the Santa Fe No.2,the Santa Fe No.3,the Santa Fe No.4,the Santa Fe No.5,the Santa Fe No.7,the Santa Fe No.9,and the Santa Fe No.10 Lode Mining Claims,together with the appurtenances; with full right to mine and remove therefrom all ores and minerals containing Tungsten,Molybdenum, Uranium,Columbium,Titanium,Platinum,Gold,Silver,Lead,Zinc,Tin and all other ores and minerals found in and upon said premises.

TO HAVE AND TO HOLD unto the said lessee,his associates and assigns,for the term of three(3) years and twenty-eight days from the date hereof,said term expiring at twelve o'clock noon on the 30th day of March,1952 unless sooner forfeited and determined through the violation of any covenant hereinafter against the said lessee reserved.

IN CONSIDERATION of such demise,the said lessee covenants and agrees with the said Company as follows,to-wit:

1. To enter upon said mine and premises and work the same mine fashion in the manner necessary to good and economical mining,so as to take out the greatest amount of ore possible,with due regard to the development and the preservation of the same as a workable mine.
2. To work and mine said premises as aforesaid steadily and with sufficient personnel and equipment to produce at least one minimum shipment of 100 tons of tungsten ore and ship the same to a regular ore buyer or to a custom mill for treatment,such work to start within a reasonable time after weather and road conditions will permit entry to said property and work to begin thereon.
3. To repair all old timbering wherever it may become necessary,and to well and sufficiently timber said mine and mining premises at all points where necessary and in accordance with good and safe mining; and to allow said Company and its agents from time to time to enter upon and into all parts of said mine for purposes of inspection.

4. To occupy and to hold as the property of the Company all cross and parallel lodes, spurs and mineral deposits of every kind which may be uncovered disclosed or discovered within the confines of said leased premises by the lessee or persons in privity with or working under him, with privilege to said lessee to work and mine the same as part and parcel of said leased premises.

5. To not assign this lease or any interest thereunder except to the group or syndicate contemplated by statements in the opening paragraph, or preamble, of this indenture, or to a corporation to be formed by such syndicate to conduct operations under this lease, and to not sublet said premises or any part thereof without written assent of said Columbia Tungsten Corporation, and to not allow any person not in privity with the parties hereto totake or hold possession of said premises or any part thereof under any pretense whatsoever.

6. To keep, at all times, the drifts, shafts, tunnels and other workings drained and clear of loose rock and rubbish, unless prevented by extraordinary mining casualty. To do no underhand stoping, and to make all shafts 7 feet long and 5 feet wide in the clear, and all drifts and tunnels 7 feet high by 5 feet wide in the clear.

7. To pay to the Company as royalty ten(10%) per cent of the net mill returns of all ore extracted from said premises by delivery of such ore with all convenient speed in lots as mined and graded to some custom mill or regular ore buyer. NET MILL RETURNS shall mean such sums as are paid for the values in the ore or any product thereof, after deducting therefrom the actual costs of sorting the ore and transporting it from the mine to the mill or to the ore buyer, togethercwith treatment and assay costs and charges. All royalties shall be paid to the Company forthwith upon receipt of payment by the lessee for each individual shipment or sale of ore to said custom mill regular ore buyer in lots made from time to time as aforesaid.

8. To at all times fully comply with the provisions of the Workmen's Compensation Act of the State of Washington and all other State laws pertaining to work of this character. To comply with the National Security Act and all other laws applying to operations under the provisions of this lease.

9. To deliver to said Company the said premises together with all improvements in good order and condition, with all drifts, shafts, tunnels and other passages clear of loose rock and rubbished and drained and the mine ready for immediate continuous working(accident arising from any cause but negligence alone excusing) without demand or further notice, on the 31st day of March, 1952, at noon or at any time previous in case of forfeiture of this lease and demand for possession by the Company.

10. It is expressly covenanted and agreed that no obligation of any kind or nature shall be imposed upon or incurred by the lessor Company by virtue of this lease other than as specifically set forth herein, and that the lessee shall pay the costs of all operations hereunder and shall hold the Company safe from all liens, judgments, and claims of whatever nature; and that the said E.H.Jamieson is an independent lessee and operator and that the Company is not liable for personal injuries that may occur to the lessee or to any of his associates, partners, employees, contractees or to any third person or persons.

11. Upon violation of any covenant or covenants herein reserved and by the lessee to be kept and performed, the terms of this lease shall, at the option of said Company, expire, and the same and the said premises with the apprtenances shall become forfeit to the Company; and the said Company, or its agent may thereupon, after demand for possession in writing, enter upon said premises

and dispossess all persons occupying the same, with or without force and with or without process of law.

12. And finally, in consideration of the acceptance of the foregoing lease and the expenditures to be made thereunder and the well and faithful keeping of the covenants thereof, the said lessee shall have the right and option to purchase all or any part of the mining property hereinabove described for a consideration of THREE HUNDRED THOUSAND($300,000.00) DOLLARS, which shall be payable in royalties at the rate of 12½% of the NET MILL RETURNS, such payments of royalty to be made but once during each calendar year on all ores shipped and mined during that year, instead of upon each separate lot as mined and shipped during the year as provided in paragraph 7 above.

13. Upon notice in writing to the Columbia Tungsten Corporation by the said lessee of his intention to exercise the foregoing option, the said Corporation shall forthwith prepare and execute a good and sufficient deed transferring the said mine, mining claims and property to the lessee, or to the syndicate or corporation referred to in paragraph 5 of said lease, and such deed together with this lease and option contract shall be placed in escrow in some bank in Spokane selected by the lessor Company and shall be there held in escrow during the life of this lease and option contract. The escrow fees incident thereto shall be born in equal proportions by the parties hereto.

14. After the option to purchase has been exercised the purchaser thereunder shall have the right at any time during the life of the option contract to tender the full amount of the unpaid purchase price and on payment being made the transfer deed shall be delivered to the purchaser.

15. All covenants and agreements for operations under said lease as hereinabove expressed in paragraphs 1 to 10 thereof, are by reference made a part of this option contract, and shall be kept and performed by the purchaser thereunder, and the said option contract shall be subject to forfeiture for violation of any of such covenants in the manner and form as provided in paragraph 11 of said lease.

16. The purchaser under said option contract shall keep proper books of account in which shall be entered all items of expense incurred in his operations under said contract for sorting, transporting and treating or milling of said ores during the period of each calendar year, and the amounts received for all ores delivered to said mill or regular ore buyer, which said accounts shall be open at all reasonable times to inspection and examination by the said Columbia Tungsten Corporation.

Each and every clause and covenant of this indenture shall extend to and be binding upon the heirs, executors, administrators and lawful assigns of each and all of the parties hereto.

IN WITNESS WHEREOF, the parties hereto have affixed their legal signatures ans seals, all being done in the City of Spokane, State of Washington, on this 3rd day of March, in the year 1949.

COLUMBIA TUNGSTEN CORPORATION
By,
Geo.W.Duncan
Its Vice-President

Attest:
Arthur L.Hooper
Secretary

Corporate Seal

E.H.Jamieson (Seal)
Lessee.

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

State of Washington)
) ss:
County of Spokane)

On this 3rd day of March,1949,before me personally appeared GEO.W.DUNCAN to me known to be the vice-president of the corporation that executed the within and foregoing instrument,and acknowledged said instrument to be the free and voluntary act and deed of said corporation,for the uses and purposes mentioned therein,and on oath stated that he was authorized to execute said instrument and that the seal affixed is the corporate seal of said corporation.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal the day and year first above written.

H.W.Bradley
Notary Public in and for the State of Washington,residing at Opportunity,Wn.
Commission expires Aug.27,1949.

(Notarial Seal)

* * * * * * * *

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit C

ASSETTS		LIABILITIES	
Stocks - - - -	$7,700.00	Notes payable - - -	none
Cash - - - -	2,000.00	Accounts payable -	none
Mining equipment	500.00	Surplus	$10,200.00
Total -	$10,200.00	Total	$10,200.00

Profit and loss Statement. 1950.

Operating capital	$10,000.00
Exploration costs	7,000.00

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit D

Two patented lode mining claims of the Columbia Group,Mineral Survey No. 1237.

Legal description Section 19,Twp.32 North,Range 38 E.W.M. Stevens County, State of Washington.

Exhibit E

Location:

7 miles north and east from the town of Cedonia which is located on Washington State Highway 22. A county road from this highway passes the foot of the property and our own road of three-quarters of a mile runs to the portal of the tunnel on Columbia Claim No.3. As farmers live within one-half mile of the property,this road is open the year round.

18 miles west of the town of Addy,Washington which is located on the Great Northern Railway and is the closest shipping point. Oiled roads connect with the county road mentioned above with steep grades over the Huckleberry Range of Mountains. Road passable if plowed in Winter.

Another shipping point is Davenport,Washington which is located 44 miles west of Spokane on the Northern Pacific Railway. Highway 22 runs into Davenport which is 50 miles distant from the mine.

Distance from Spokane Washington is 94 miles by way of Davenport, 85 miles by way of Addy,Washington.

Exhibit F

Water supply:

Springs and water being made in the adits has been sufficient for compressor and diamond drill machine and camp use.

Power:

Gasoline or Diesel.

Exhibit G.

Small tools,mine cars,ultra-violet lamps,cabin,ore bunker and outbuildings.

Exhibit H.

By truck to Addy,Washington,by rail to Davis California to Tulare County custom mill which at present is the closest tungsten custom mill. There is a possibility of a tungsten mill being operated 35 miles from the property this Summer. To be shipped the ore should be sorted under an ultra-violet ray lamp and hi-graded as freight rates prohibit shipping mine run ores as shown by making a test of a batch sample.If commercial ore is found in good quantities on this property a small mill should be installed. The ore is Wolframite with scheelite associated with it.

E.H.Jamieson
414 East 17th Ave.
Spokane Washington.

Exhibit I.

Exploration: (a)

An adit has been driven on the 1200 foot level in a northwest direction for a distance of 200 feet. This tunnel follows the vein for a distance of 15 feet and then turns west and is driven alongside the ledge in a fault. About 70 feet in from the portal a crosscut to the east has been driven for forty feet and about 17 feet in from the tunnel a quartz vein three and one-feet wide has been cut. An assay of a sample takenacross the width of this vein returned 3.7% WO_3. The rock enclosing this vein is a porphrytic granite. This work was done prior to the aquisition of the property by Columbia Tungsten Corporation and was driven by hand,which fact probably accounts for the tunnel leaving the vein as the fault is in broken ground and driving by hand was easier.

Directly above the portal of this exploratory tunnel a drift was started on an exposed quartz lens and driven in the mountain for a distance of 70 feet. The ore taken out in this operation was placed in an ore bin 30x12x10 feet in dimension and a representative sample of 300 lbs. of this ore was concentrated and assayed. Returns on this sample gave 2¼% WO_3 content. There are three quartz veins disclosed in the roof of this drift and tungsten mineralization shows under the ultra-violet lamp. These veins are lenticular in nature- swelling and pinching throughout their course. The enclosing granite is strongly jointed and stratified and concentration of scheelite crystals is very prominent in the joints. The quartz veins appear to be mainly mineralized with wolframite crystals. These crystals are filmed over and surrounded with small scheelite crystals, causing the wolframite to fluoresce.

The quartz veins are exposed on the surface of the mountain side, which has a steep pitch,for a distance of 400 feet up the mountain from the 1200 foot level and have been opened at intervals by blasting. These veins trend north-northeast and dip from 50 to 90 degrees,mainly southeast. They are irregular in course and attain a maximum thickness of 7 to 12 inches. Further up the mineralized zone these veins attain a maximum thickness of 12 to 14 inches.

This area is on Columbia Claim No.3,which is the site of the proposed exploration has been examined on the surface at night with the ultra-violet lamp and shows fluorescence of scheelite in the granite which encloses these quartz veins.

(b) Two patented claims belonging to Washington Metals adjoin Columbia No.4, Columbia No.1, and Columbia No.6 on the east and north. The veins run from east to west and have been trenched to a depth of six feet on the ridge of the mountain. A tunnel driven from the north slope of the mountain 100 feet below the crest has opened these veins and some stoping and production was done in 1939. No record is available of the amount of production and these workings are caved in at present. The ore was hubnerite. Tungsten ores were taken out during World War I from the trenching done on the ridge.

(c) Results of mine examinations show that there is not a sufficient amount of ore blocked out to denote a commercial operation without further exploration and the following program has been recommended for exploration of the mineralized zone and ore exposed on the surface on Columbia Claim No.3,and in addition one underground diamond drill hole to test for the downward extension of and the character of the mineralization in the quartz veins exposed on the surface and in the workings.

No.1 hole is marked on the surface by a steel pin 60 feet northwest of the portal of the upper tunnel. Another steel pin on the surface in a south 65 degrees east direction marks the direction in which it was laid out to be driven. I am afraid the quartz which displaces the quartz at the portal of the middle tunnel will displace it enough so that the course laid out will miss the quartz. I suggest therefor that the hole be driven 20 degrees further to the left in a south 85 degrees east direction at a down angle of 45 degrees for a distance of 150 feet.(This hole encountered a "water break-down" in a 121 feet and water rose thro the hole.)

No.2 hole marked by a steel pin is to start 75 feet a little north of west of the portal of the middle tunnel and is to be driven south 60 degrees east at a down angle of 45 degrees for 150 feet. The direction is marked on the ore bin in yellow crayon.

No.3 hole. I have added a third hole to start at a point 7 feet from the face of the middle tunnel,to be driven south 60 degrees east at a down angle of 30 degrees for a distance of 200 feet. This hole is to be preferred over No.2 if you wish to limit the drilling to two holes at this time.

Yours very truly,
(Signed) P.E.Oscarson.

JOHN HERMAN LABORATORY.
920 Santee St. Los Angeles 15,Cal.

Report of Spectographic Qualitative Analysis.
Made for W.H.Stowell & Co. Date Feb.14,1951.

	ELEMENT	
"Jamieson"	Tungsten) Silicon)	Main Constituents
	Calcium	10%
	Iron	1%-10%
	Aluminum	1%-10%
	Potassium	1%-10%
	Magnesium	1%
	Manganese	1%
	Zinc	1%
	Sodium	0.1%-1%
	Copper	0.01%-1%
	Titanium	0.01%-1%
	Strontium	0.01%
	Barium	0.01%

E.H.Jamieson
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Lead - - - - - - - - - - - - - - - - -0.01%
Boron - - - - - - - - - - - - - - - - 0.01%
Tin - - - - - - - - - - - - - - - - - -0.01%

Vanadium - - - - - - - - - - - - - - 0.001%- 0.01%
Gallium - - - - - - - - - - - - - - - 0.001%- 0.01%
Chromium - - - - - - - - - - - - - - 0.001%-0.01%
Molybdenum - - - - - - - - - - - - - 0.001% - 0.01%
Bismuth - - - - - - - - - - - - - - - 0.001% -

Rare Earths - - - - - - - - - - - - -Trace
Silver - - - - - - - - - - - - - - - -Present

Estimated Quantitives to the nearest factor of Ten.

(Signed) John Herman,Chemist.

* * * * * * * * * * * * * * * *

Analysis of concentrates and middlings made by U.S.Vanadium Corp.
"Jamieson" Date Oct.25,1950.

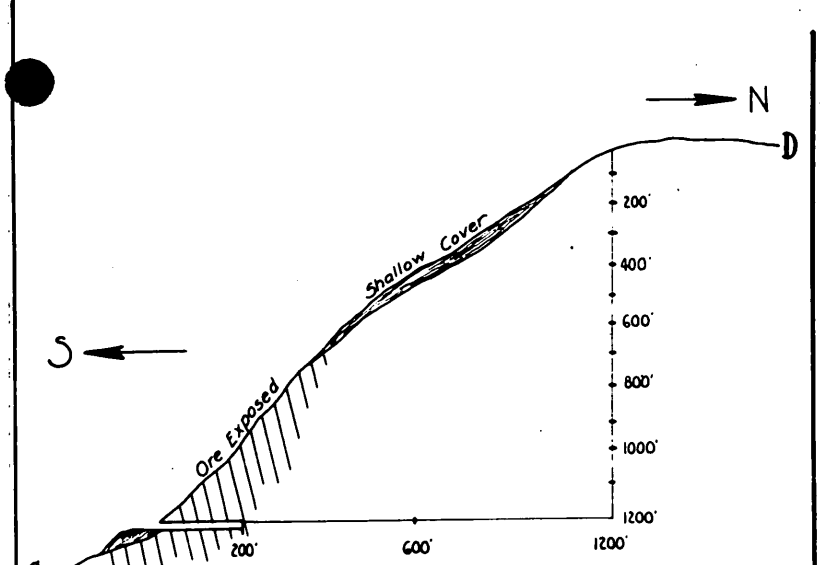
Middlings:
Acid soluble $\%WO_3$ - - - - - - - -23.25
Total $\%WO_3$ - - - - - - - - - - - 27.87
Concentrates(fine)
Acid soluble $\%WO_3$- - - - - - - - 38.91
Total $\%WO_3$ - - - - - - - - - - - 48.02
Concentrates(coarse)
Acid soluble $\%WO_3$ - - - - - - - -42.52
Total $\%WO_3$ - - - - - - - - - - -71.08

* * * * * * * * * * * * * * * * * *

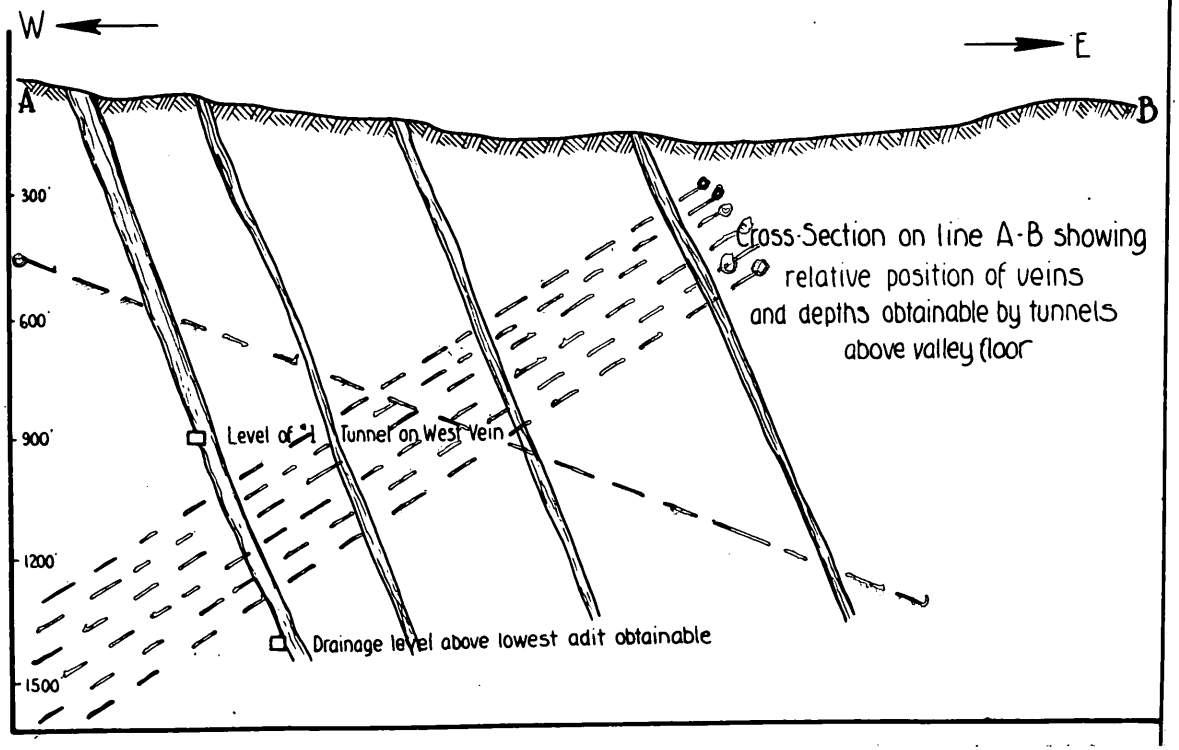
E.H.Jamieson
414 East 17th Ave
Spokane 10 Washington

Exhibit J

COLUMBIA GROUP OF TUNGSTEN CLAIMS



Vertical Section on C-D
in plane of Vein #1
Illustrates steep rise and depths
developed by 1200' Tunnel

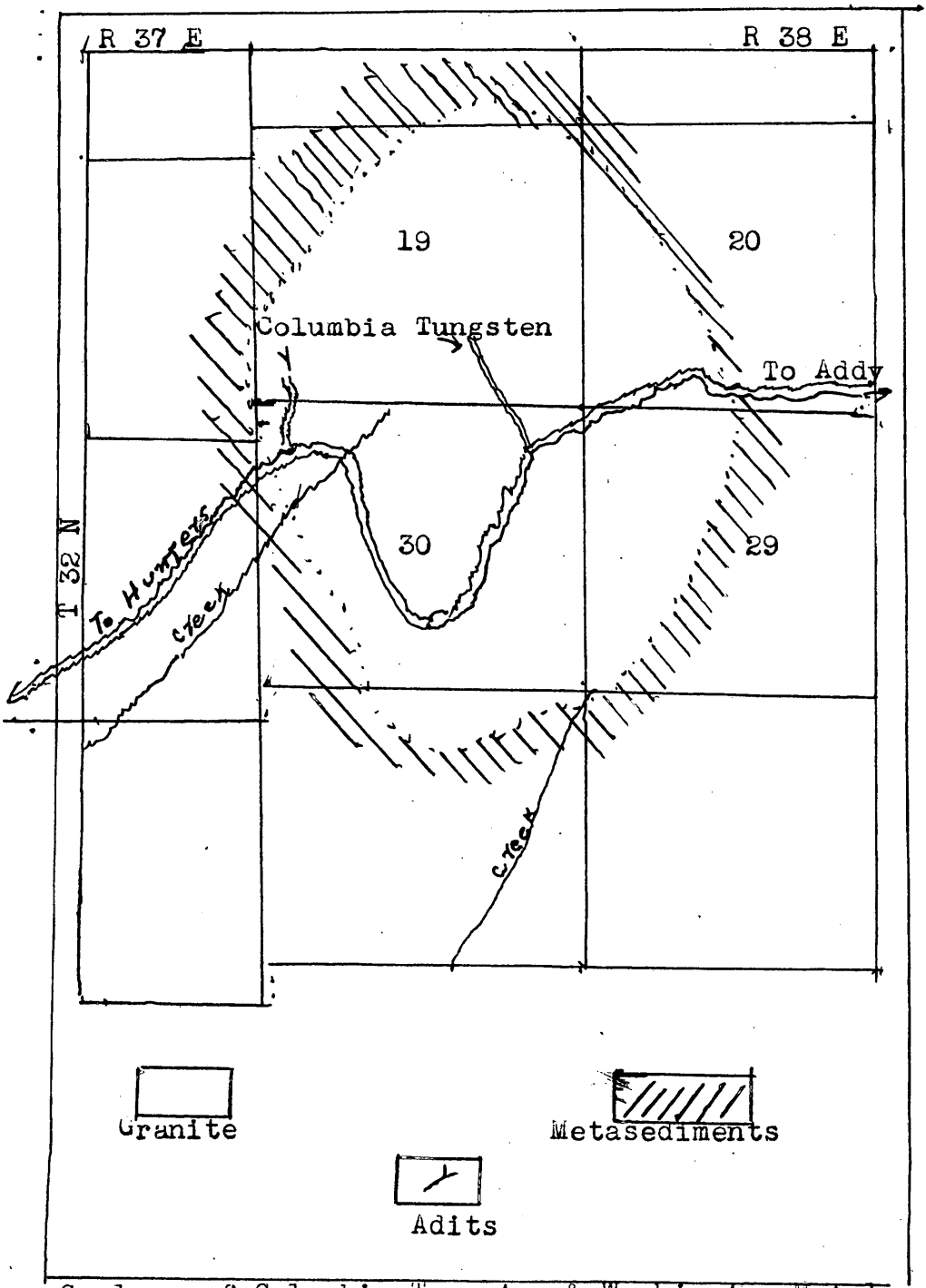


Cross-Section on line A-B showing
relative position of veins
and depths obtainable by tunnels
above valley floor

F.M.Handy E.M.
Spokane Wash.

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit K



Geology of Columbia Tungsten & Washington Metals

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington.

Exhibit J

Proposed exploration:

Starting 100 feet above the portal of the exploratory tunnel to drill the mineralized zone from east to west(transversally) at an angle of 80 degrees down every 50 feet for a distance of 400 feet up the surface of the mountain. The purpose is to cut the quartz veins exposed in the zone and explore to the contact on the west boundaries of Columbia Claim No.3.

Proposed diamond drill footage - 2,000 feet.

Estimated time - 3 months.

* * * * * * *

Exhibit K.

The country rock is a porphrytic granite whose surficial are is about 2½ square miles; it is intrusive into gray,arkosic quartzites and argillites of the Stevens series. The outstanding feature of mein deposits of tungsten is that they invariably occur in close association with granitoid rocks. These may be true granites or have the mineral composition of slightly more basic rocks,but they are generally light in color and show more or less free quartz. In many instancies the veins carrying tungsten lie near the contact of the intrusive granitic rock with the surrounding country rock,either in the granite itself or in the adjacent formation. In general the tungsten minerals will be found near the margin of the intrusive granite rather than deep within it. Thus in Stevens County all veins lie near the contact of the Loon Lake granite with the metamorphic rocks of the Stevens series.(See map of Geology of Columbia Tungsten & Washington Metals area).

Sample Mark.		
1.	Across 14" of vein at portal of adit - - - - - - - -	%WO_3 -6.3
2.	Surface exposure 50 feet north of portal - - - - -	%WO_3 -14.7
3.	Open cut near west contact - - - - - - - - - - - - -	%WO_3 -6.4
4.	Surface exposure 150 feet north of portal - - - - -	%WO_3 -10.9
5.	Sample across 3½ feet in crosscut - - - - - - - - -	%WO_3 -3.7
6.	Vein exposure 200 feet north of portal - - - - - -	%WO_3 -9.83
7.	Sample across 8 inches in drift - - - - - - - - - -	%WO_3 -11.0
8.	Sample across vein 6 inches in drift - - - - - - -	%WO_3 -7.1
9.	Sample across face of drift-5 feet in width - - - -	%WO_3 -1.58

All mining and milling of the ores on Columbia Claim No.3 can be done by gravity-eliminating sinking of shafts and hoisting of ore.

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit L.

Estimated costs and requirements of project.

	Contract cost per foot for core drilling-2,000 feet @ $5.00 per foot on surface	$10,000.00
(a)		none
(b)	1 Supervisor @ $300.00 per month-3 months	900.00
(c)	Repairs to camp cabin	250.00
(d)		none
(e)		none
(f)	125 portable compressor, air hose and receiver	750.00
(g)	Core boxes 40 @ $5.00 each	200.00
(h)	Ultra-violet lamp upkeep - Batteries	48.00
(i)	Gas for compressor to operate air motor	150.00
		$12,298.00
	Less gas for compressor, transportation on compressor	250.00
	Total	$12,098.00

* * * * * * *

Exhibit M.

Completion of drilling as outlined - 3 months after approval.
Money expected to be spent - $12,000.00

* * * * * * * *

Finis.

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

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

DO NOT FILL IN THIS BLOCK

Docket No. 520X

Date received 5-8-51

Participation

E.H.Jamieson
414 East 17th Ave
Spokane 10 Washington

Name and address of applicant

Date May 5,1951

FILL IN THIS BLOCK

Date of application May 5,1951

Estimated cost $12,000.00

Mineral or metal Tungsten Ores

Percentage of Government participation 75%

Location of mine Sections 19 & 30,Twp.32N,Range 38EWM
Summit Mining District,Stevens County,Washington.

Date of filing MF-100

DMA Docket Number, if available 520X

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation? Individual

*2. If a partnership, state names and addresses of partners.

*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.

*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project. Exhibit A

*5. Are you the owner or the lessee of the property? Lessee

6. If owner, state what claims, liens, or encumbrances, if any, are against the property. Not any

7. If lessee, attach a copy of the lease and state if it is in good standing. Good standing Exhibit B

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

*8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement. Exhibit C

9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)? $3,000.00

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*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. Exhibit D

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

NOTE.—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 (*b*) 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.

*11. State the present and former names of the property, if any. Columbia Tungsten

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads. Exhibit E

*13. State source and quantity of water available for operations and its sufficiency at all seasons. State amount of power to be used, rate per hour or other cost, and source. Exhibit F

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. Exhibit G

15. State in detail how the ore could be shipped and how and where milled. Exhibit H

*16. History: Exhibit I

(*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(*b*) State briefly the known history and production of adjoining and neighboring properties.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:

(*a*) If mine is in production, furnish the following information:

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.)

(*a*) Describe the ore or mineral deposits briefly.

(*b*) Submit available maps and assay data.

(*c*) Give estimated tonnage and grade of each class of ore reserves.

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

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted? Tungsten

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. Exhibit J

NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data. Exhibit K

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.

(*b*) Supervisors, by numbers and positions, with salaries of each. Exhibit L

(*c*) Cost of necessary repairs to existing facilities, structures, and buildings.

(*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.

(*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

(*f*) Cost of rental for equipment which the operator proposes to rent.

(*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.

(*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.

(*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent. Exhibit M.

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.

(Name of company)	By E. H. Jamieson (Signature of authorized official)
(Date)	Lessee (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.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit A

Mining Experience:

Member Board of Directors of Metaline Mining and Leasing Company 1929 and 1930.

Incorporator of Columbia Tungsten Corporation,a Washington corporation,1938.
Secretary and Treasurer of same to 1941.
President and General Manager of same to 1949.
Lessee of Columbia Tungsten Property.
Supervision of exploratory work 1950.

Business Experience.

President and Manager of Jamieson Investment Company,a Washington corporation operating farm lands,orchards, apartment houses and business properties. 1916 to 1939 when corporation was dissolved.

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington.

LEASE AND OPTION TO PURCHASE MINING CLAIMS

THIS INDENTURE made and entered into at Spokane,Washington this 3rd day of March,1949,by and between Columbia Tungsten Corporation,a corporation organized and existing under the laws of the State of Washington with headquarters at Spokane,herein called the Company,and E.H.Jamieson,the President of said Company,and promotor of a group or syndicate being formed to finance the operation of the Company's mining claims under the provisions of this lease and option,herein called the lessee, WITNESSETH:

That the said Company, for and in consideration of the royalties hereinafter reserved,and the covenants and agreements hereinafter expressed,and by the said lessee to be kept and performed,hereby grants,demises and lets to the said lessee all of the following described mine,mining claims and property,situated in Sections 19 and 30,Twp.32 North,Range 38,E.W.M.,in the Summit Mining District,in Stevens County,State of Washington,to-wit:

The Columbia No.3 and Columbia No.4 Lode Mining Claims,Survey Lot No.1237; The Columbia No.1,the Columbia No.2,the Columbia No.5,the Columbia No.6,the Columbia No.7,the Santa Fe No.1,the Santa Fe No.2,the Santa Fe No.3,the Santa Fe No.4,the Santa Fe No.5,the Santa Fe No.7,the Santa Fe No.9,and the Santa Fe No.10 Lode Mining Claims,together with the appurtenances; with full right to mine and remove therefrom all ores and minerals containing Tungsten,Molybdenum, Uranium,Columbium,Titanium,Platinum,Gold,Silver,Lead,Zinc,Tin and all other ores and minerals found in and upon said premises.

TO HAVE AND TO HOLD unto the said lessee,his associates and assigns,for the term of three(3) years and twenty-eight days from the date hereof,said term expiring at twelve o'clock noon on the 30th day of March,1952 unless sooner forfeited and determined through the violation of any covenant hereinafter against the said lessee reserved.

IN CONSIDERATION of such demise,the said lessee covenants and agrees with the said Company as follows,to-wit:

1. To enter upon said mine and premises and work the same mine fashion in the manner necessary to good and economical mining,so as to take out the greatest amount of ore possible,with due regard to the development and the preservation of the same as a workable mine.
2. To work and mine said premises as aforesaid steadily and with sufficient personnel and equipment to produce at least one minimum shipment of 100 tons of tungsten ore and ship the same to a regular ore buyer or to a custom mill for treatment,such work to start within a reasonable time after weather and road conditions will permit entry to said property and work to begin thereon.
3. To repair all old timbering wherever it may become necessary,and to well and sufficiently timber said mine and mining premises at all points where necessary and in accordance with good and safe mining; and to allow said Company and its agents from time to time to enter upon and into all parts of said mine for purposes of inspection.

4. To occupy and to hold as the property of the Company all cross and parallel lodes,spurs and mineral deposits of every kind which may be uncovered disclosed or discovered within the confines of said leased premises by the lessee or persons in privity with or working under him,with privilege to said lessee to work and mine the same as part and parcel of said leased premises.

5. To not assign this lease or any interest thereunder except to the group or syndicate contemplated by statements in the opening paragraph,or preamble, of this indenture,or to a corporation to be formed by such syndicate to conduct operations under this lease,and to not sublet said premises or any part thereof without written assent of said Columbia Tungsten Corporation, and to not allow any person not in privity with the parties hereto totake or hold possession of said premises or any part thereof under any pretense whatsoever.

6. To keep,at all times,the drifts,shafts,tunnels and other workings drained and clear of loose rock and rubbish,unless prevented by extraordinary mining casualty. To do no underhand stoping,and to make all shafts 7 feet long and 5 feet wide in the clear,and all drifts and tunnels 7 feet high by 5 feet wide in the clear.

7. To pay to the Company as royalty ten(10%) per cent of the net mill returns of all ore extracted from said premises by delivery of such ore with all convenient speed in lots as mined and graded to some custom mill or regular ore buyer. NET MILL RETURNS shall mean such sums as are paid for the values in the ore or any product thereof, after deducting therefrom the actual costs of sorting the ore and transporting it from the mine to the mill or to the ore buyer,together with treatment and assay costs and charges. All royalties shall be paid to the Company forthwith upon receipt of payment by the lessee for each individual shipment or sale of ore to said custom mill regular ore buyer in lots made from time to time as aforesaid.

8. To at all times fully comply with the provisions of the Workmen's Compensation Act of the State of Washington and all other State laws pertaining to work of this character. To comply with the National Security Act and all other laws applying to operations under the provisions of this lease.

9. To deliver to said Company the said premises together with all improvements in good order and condition,with all drifts,shafts,tunnels and other passages clear of loose rock and rubbished and drained and the mine ready for immediate continuous working(accident arising from any cause but negligence alone excusing) without demand or further notice,on the 31st day of March, 1952,at noon or at any time previous in case of forfeiture of this lease and demand for possession by the Company.

10. It is expressly covenanted and agreed that no obligation of any kind or nature shall be imposed upon or incurred by the lessor Company by virtue of this lease other than as specifically set forth herein,and that the lessee shall pay the costs of all operations hereunder and shall hold the Company safe from all liens,judgments,and claims of whatever nature; and that the said E.H.Jamieson is an independent lessee and operator and that the Company is not liable for personal injuries that may occur to the lessee or to any of his associates,partners,employees,contractees or to any third person or persons.

11. Upon violation of any covenant or covenants herein reserved and by the lessee to be kept and performed,the terms of this lease shall,at the option of said Company,expire,and the same and the said premises with the apprtenances shall become forfeit to the Company; and the said Company,or its agent may thereupon,after demand for possession in writing,enter upon said premises

and dispossess all persons occupying the same,with or without force and with or without process of law.

12. And finally,in consideration of the acceptance of the foregoing lease and the expenditures to be made thereunder and the well and faithful keeping of the covenants thereof,the said lessee shall have the right and option to purchase all or any part of the mining property hereinabove described for a consideration of THREE HUNDRED THOUSAND($300,000.00) DOLLARS,which shall be payable in royalties at the rate of 12½% of the NET MILL RETURNS,such payments of royalty to be made but once during each calendar year on all ores shipped and mined during that year,instead of upon each separate lot as mined and shipped during the year as provided in paragraph 7 above.

13. Upon notice in writing to the Columbia Tungsten Corporation by the said lessee of his intention to exercise the foregoing option,the said Corporation shall forthwith prepare and execute a good and sufficient deed transferring the said mine,mining claims and property to the lessee,or to the syndicate or corporation referred to in paragraph 5 of said lease,and such deed together with this lease and option contract shall be placed in escrow in some bank in Spokane selected by the lessor Company and shall be there held in escrow during the life of this lease and option contract. The escrow fees incident thereto shall be born in equal proportions by the parties hereto.

14. After the option to purchase has been exercised the purchaser thereunder shall have the right at any time during the life of the option contract to tender the full amount of the unpaid purchase price and on payment being made the transfer deed shall be delivered to the purchaser.

15. All covenants and agreements for operations under said lease as hereinabove expressed in paragraphs 1 to 10 thereof,are by reference made a part of this option contract,and shall be kept and performed by the purchaser thereunder,and the said option contract shall be subject to forfeiture for violation of any of such covenants in the manner and form as provided in paragraph 11 of said lease.

16. The purchaser under said option contract shall keep proper books of account in which shall be entered all items of expense incurred in his operations under said contract for sorting, transporting and treating or milling of said ores during the period of each calendar year,and the amounts received for all ores delivered to said mill or regular ore buyer,which said accounts shall be open at all reasonable times to inspection and examination by the said Columbia Tungsten Corporation.

Each and every clause and covenant of this indenture shall extend to and be binding upon the heirs,executors,administrators and lawful assigns of each and all of the parties hereto.

IN WITNESS WHEREOF,the parties hereto have affixed their legal signatures ans seals,all being done in the City of Spokane,State of Washington,on this 3rd day of March,in the year 1949.

COLUMBIA TUNGSTEN CORPORATION
By,
Geo.W.Duncan
Its Vice-President

Attest:
Arthur L.Hooper
Secretary

Corporate Seal

E.H.Jamieson (Seal)
Lessee.

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

State of Washington)
) ss:
County of Spokane)

On this 3rd day of March,1949,before me personally appeared GEO.W.DUNCAN to me known to be the vice-president of the corporation that executed the within and foregoing instrument,and acknowledged said instrument to be the free and voluntary act and deed of said corporation,for the uses and purposes mentioned therein,and on oath stated that he was authorized to execute said instrument and that the seal affixed is the corporate seal of said corporation.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal the day and year first above written.

H.W.Bradley
Notary Public in and for the State of Washington,residing at Opportunity,Wn.
Commission expires Aug.27,1949.

(Notarial Seal)

* * * * * * * *

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit C

ASSETTS		LIABILITIES	
Stocks - - - -	$7,700.00	Notes payable - - -	none
Cash - - - - -	2,000.00	Accounts payable -	none
Mining equipment	500.00	Surplus	$10,200.00
Total -	$10,200.00	Total	$10,200.00

Profit and loss Statement. 1950.

Operating capital	$10,000.00
Exploration costs	7,000.00

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit D

Two patented lode mining claims of the Columbia Group,Mineral Survey No. 1237.

Legal description Section 19,Twp.32 North,Range 38 E.W.M. Stevens County, State of Washington.

Exhibit E

Location:

7 miles north and east from the town of Cedonia which is located on Washington State Highway 22. A county road from this highway passes the foot of the property and our own road of three-quarters of a mile runs to the portal of the tunnel on Columbia Claim No.3. As farmers live within one-half mile of the property,this road is open the year round.

18 miles west of the town of Addy,Washington which is located on the Great Northern Railway and is the closest shipping point. Oiled roads connect with the county road mentioned above with steep grades over the Huckleberry Range of Mountains. Road passable if plowed in Winter.

Another shipping point is Davenport,Washington which is located 44 miles west of Spokane on the Northern Pacific Railway. Highway 22 runs into Davenport which is 50 miles distant from the mine.

Distance from Spokane Washington is 94 miles by way of Davenport, 85 miles by way of Addy,Washington.

Exhibit F

Water supply:

Springs and water being made in the adits has been sufficient for compressor and diamond drill machine and camp use.

Power:

Gasoline or Diesel.

Exhibit G.

Small tools,mine cars,ultra-violet lamps,cabin,ore bunker and outbuildings.

Exhibit H.

By truck to Addy,Washington,by rail to Davis California to Tulare County custom mill which at present is the closest tungsten custom mill. There is a possibility of a tungsten mill being operated 35 miles from the property this Summer. To be shipped the ore should be sorted under an ultra-violet ray lamp and hi-graded as freight rates prohibit shipping mine run ores as shown by making a test of a batch sample.If commercial ore is found in good quantities on this property a small mill should be installed. The ore is Wolframite with scheelite associated with it.

(c) Results of mine examinations show that there is not a sufficient amount of ore blocked out to denote a commercial operation without further exploration and the following program has been recommended for exploration of the mineralized zone and ore exposed on the surface on Columbia Claim No.3,and in addition one underground diamond drill hole to test for the downward extension of and the character of the mineralization in the quartz veins exposed on the surface and in the workings.

No.1 hole is marked on the surface by a steel pin 60 feet northwest of the portal of the upper tunnel. Another steel pin on the surface in a south 65 degrees east direction marks the direction in which it was laid out to be driven. I am afraid the quartz which displaces the quartz at the portal of the middle tunnel will displace it enough so that the course laid out will miss the quartz. I suggest therefor that the hole be driven 20 degrees further to the left in a south 85 degrees east direction at a down angle of 45 degrees for a distance of 150 feet.(This hole encountered a "water break-down" in a 121 feet and water rose thro the hole.)

No.2 hole marked by a steel pin is to start 75 feet a little north of west of the portal of the middle tunnel and is to be driven south 60 degrees east at a down angle of 45 degrees for 150 feet. The direction is marked on the ore bin in yellow crayon.

No.3 hole. I have added a third hole to start at a point 7 feet from the face of the middle tunnel,to be driven south 60 degrees east at a down angle of 30 degrees for a distance of 200 feet. This hole is to be preferred over No.2 if you wish to limit the drilling to twp holes at this time.

Yours very truly,
(Signed) P.E.Oscarson.

JOHN HERMAN LABORATORY.
920 Santee St. Los Angeles 15,Cal.

Report of Spectographic Qualitative Analysis.
Made for W.H.Stowell & Co. Date Feb.14,1951.

"Jamieson"

ELEMENT	
Tungsten) Silicon)	Main Constituents
Calcium	10%
Iron	1%-10%
Aluminum	1%-10%
Potassium	1%-10%
Magnesium	1%
Manganese	1%
Zinc	1%
Sodium	0.1%-1%
Copper	0.01%-1%
Titanium	0.01%-1%
Strontium	0.01%
Barium	0.01%

Lead - - - - - - - - - - - - - - - - -0.01%
Boron - - - - - - - - - - - - - - - - 0.01%
Tin - - - - - - - - - - - - - - - - -0.01%

Vanadium - - - - - - - - - - - - - - 0.001%- 0.01%
Gallium - - - - - - - - - - - - - - 0.001%- 0.01%
Chromium - - - - - - - - - - - - - - 0.001%-0.01%
Molybdenum - - - - - - - - - - - - - 0.001% - 0.01%
Bismuth - - - - - - - - - - - - - - 0.001% -

Rare Earths - - - - - - - - - - - - -Trace
Silver - - - - - - - - - - - - - - - -Present

Estimated Quantitives to the nearest factor of Ten.

(Signed) John Herman,Chemist.

* * * * * * * * * * * * * * *

Analysis of concentrates and middlings made by U.S.Vanadium Corp.
"Jamieson" Date Oct.25,1950.

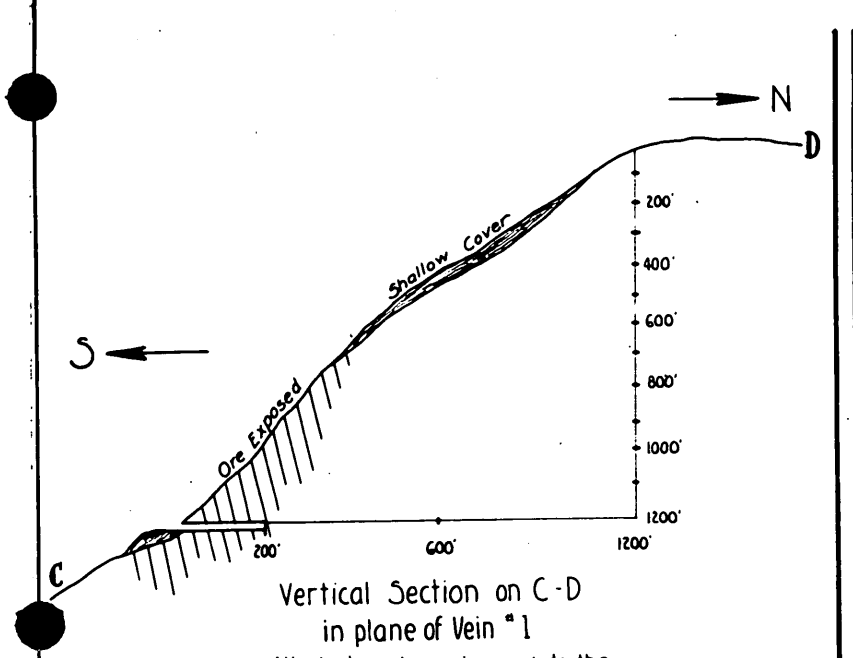
Middlings:
Acid soluble $\%WO_3$ - - - - - - - -23.25
Total $\%WO_3$ - - - - - - - - - - - 27.87
Concentrates(fine)
Acid soluble $\%WO_3$- - - - - - - - 38.81
Total $\%WO_3$ - - - - - - - - - - - 48.02
Concentrates(coarse)
Acid soluble $\%WO_3$ - - - - - - - -42.52
Total $\%WO_3$ - - - - - - - - - - -71.08

* * * * * * * * * * * * * * * * *

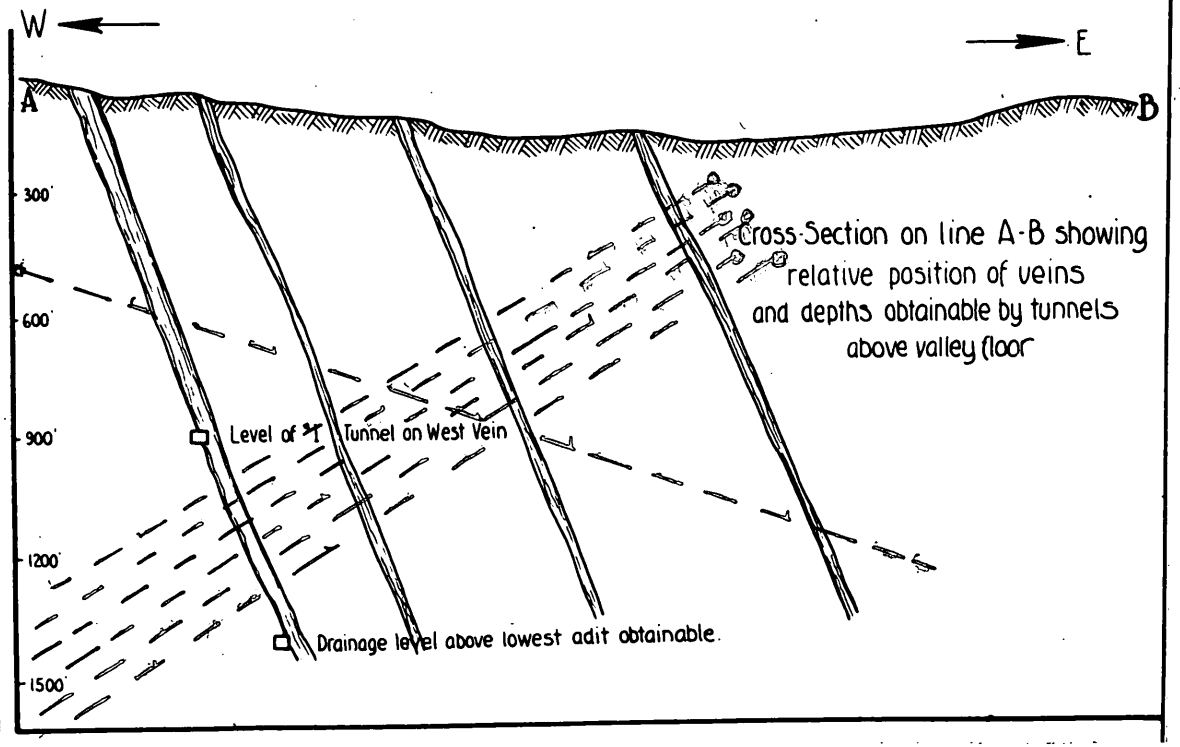
E.H.Jamieson
414 East 17th Ave
Spokane 10 Washington

Exhibit J.

COLUMBIA GROUP OF TUNGSTEN CLAIMS



Vertical Section on C-D
in plane of Vein #1
Illustrates steep rise and depths
developed by 1200' Tunnel



Cross-Section on line A-B showing
relative position of veins
and depths obtainable by tunnels
above valley floor

F.M.HandyE.M.
Spokane Wash.

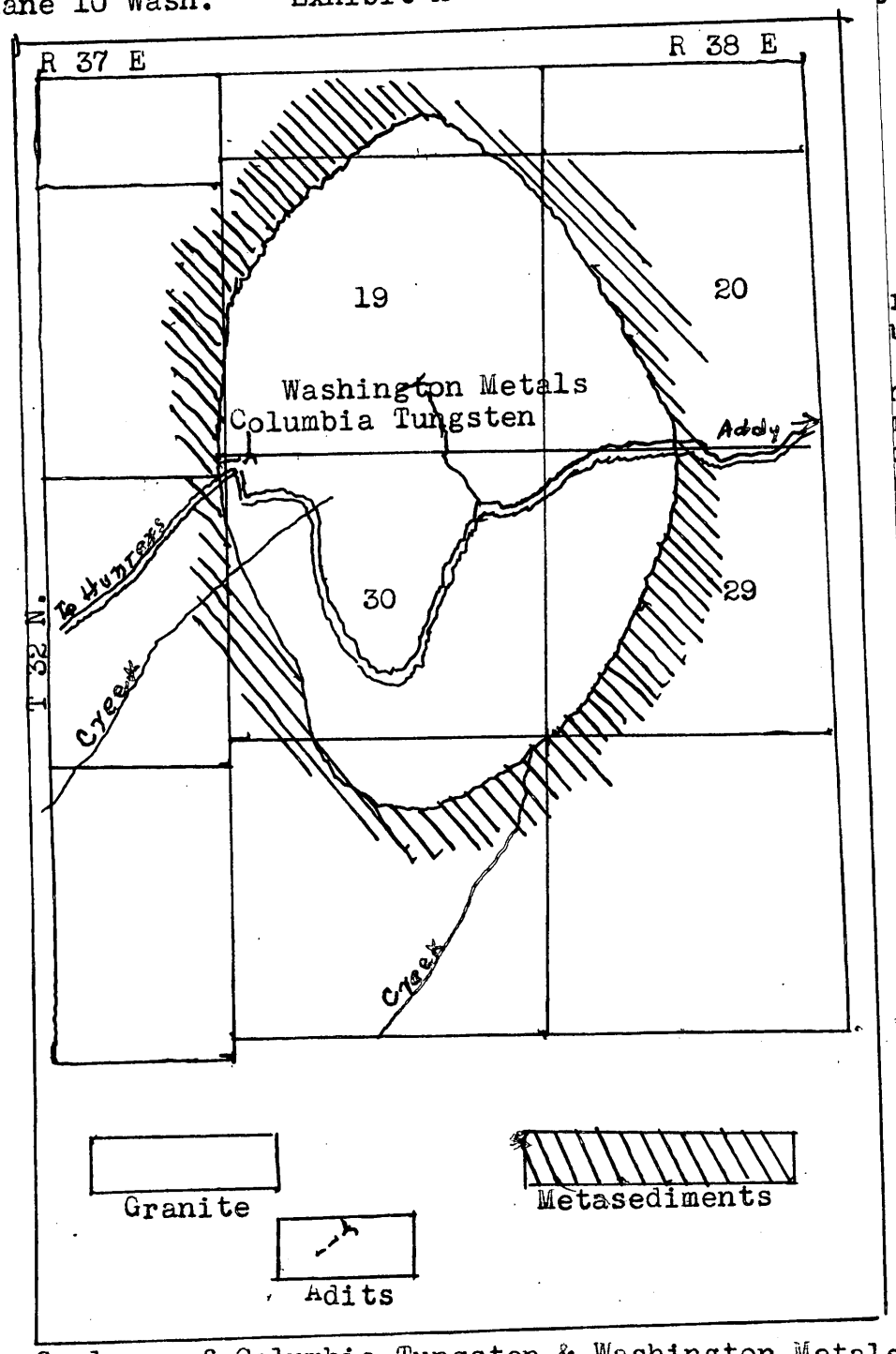
E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington.

Exhibit J

Proposed exploration:
Starting 100 feet ... ploratory tunnel to drill
ally) at an angle of 80
feet up the surface of
eins exposed in the zone
s of Columbia Claim No.3.

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Wash.

Exhibit K



Geology of Columbia Tungsten & Washington Metals

rficial are is about $2\frac{1}{2}$
uartzites and argillites
mein deposits of tungsten
n with granitoid rocks.
mposition of slightly
color and show more or
rrying tungsten lie near
he surrounding country
ent formation. In general
in of the intrusive granite
all veins lie near the
hic rocks of the Stevens
Washington Metals area).

- - - - - - - -	$\%WO_3$	-6.3
tal - - - - - -	$\%WO_3$	-14.7
- - - - - - - -	$\%WO_3$	-6.4
rtal - - - - - -	$\%WO_3$	-10.9
- - - - - - - -	$\%WO_3$	-3.7
l - - - - - - -	$\%WO_3$	-9.83
- - - - - - -	$\%WO_3$	-11.0
- - - - - - - -	$\%WO_3$	-7.1
width - - - -	$\%WO_3$	-1.58

lm No.3 can be done by
of ore.

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Exhibit L.

Estimated costs and requirements of project.

	Contract cost per foot for core drilling-2,000 feet @ $5.00 per foot on surface -	$10,000.00
(a)	- -	none
(b)	1 Supervisor @ $300.00 per month-3 months - - - - - - - -	900.00
(c)	Repairs to camp cabin -	250.00
(d)	- -	none
(e)	- -	none
(f)	125 portable compressor, air hose and receiver - - - - - - -	750.00
(g)	Core boxes 40 @ $5.00 each - - - - - - - - - - - - - - - - - -	200.00
(h)	Ultra-violet lamp upkeep - - - - - - - - - - Batteries - - -	48.00
(i)	Gas for compressor to operate air motor - - - - - - - - - -	150.00
		$12,298.00
	Less gas for compressor, transportation on compressor	250.00
	Total - - - - - - -	$12,098.00

* * * * * * *

Exhibit M.

Completion of drilling as outlined - - - - - - - - - 3 months after approval.
Money expected to be spent - $12,000.00

* * * * * * * *

Finis.

DMA 520

March 2, 1951

Hon. Warren G. Magnuson
United States Senate
Washington, D. C.

Dear Senator Magnuson:

This will acknowledge receipt of your letter dated February 12 regarding your inquiry as to the status of an application made by Mr. M. H. Jamieson of Spokane, Washington regarding his tungsten property in Stevens County, Washington for which he is requesting a loan of $467,500.

Our Tungsten Branch, in conjunction with USGS personnel, has made a careful review of this application and are also in receipt of field reports from the USGS district office in Spokane, and at the present time we are unable to concur with Mr. Jamieson in regard to the assay of the minerals on his property.

It has been tentatively decided to await the clearing of the snow from the ground on this property at which time further examination of these claims will be made.

After this field inspection and definite decisions have been reached, we will keep you posted.

Sincerely yours,

JAMES BOYD
Administrator

GHM:mcc
Ext 2376

cc: Mr. Bradley
Mr. Douglas
Administrators Reading File
Mr. Strobel
F I L E S

Dma-520

Spokane Washington

May 14,1951.

Defense Minerals Administration
Department of the Interior
Washington 25,D.C.

Gentlemen:

On January 28,1951 I submitted to you an application for a loan for big scale production on the property of Columbia Tungsten Corporation in Stevens County, State of Washington. This loan was refused on the ground that there was not enough ore developed to justify production on the scale stated in my application. Form NSRB-146.

On May 5,1951 I submitted to you an application on Form MF-105 for a 75% participation loan on the same property. This form probably has not as yet been processed. In this application I asked for a $9,000.00 loan for a diamond drilling contract of 2,000. feet for exploration of the ore bodies.

Since the date of application for the latter loan I discovered that there will be available in our locality a custom tungsten mill and I have contacted the parties who own the mill and have been assured that they would mill our ore in lots of 100 tons as soon as they had finished rehabilitating the mill. This will be completed by June 1 and they thought that by July 1,1951 that they could begin custom milling. This mill is 25 miles distant from our property on good roads.

I have contacted Mr.A.E.Wiesenborn of the Geological Division of the Department of the Interior at their Spokane office and told him what I had in mind. He handed me Form MF-100 and on that form I am submitting to you an application for a loan amounting to $10,000.00. This money is to be used to surface mine sufficient ore to obtain 100 tons of sorted ore of %WO_3 5 or better and the 100 tons of sorted ore is to be trucked to the custom mill and concentrated. The loan is to be repaid from cash derived from these concentrates. This is strictly a loan for operation and production of tungsten concentrates. The work will be let to individual contractors and there will be no money required for equipment as I have the sorting lamp. The contractors will furnish everything.

These operations are proving sucessful in Nevada,Arizona and California where there are milling facilities within fifty miles.

Following is a table of the nature of expenditures and the amount of cash applied for.

Nature of Expenditure	Amount
Contract for mining 500 tons of vein matter and "Chuting" to sorting pile	$2,000.00
Sorting 500 tons to 5 per cent grade(per diem)	$2,000.00
Contract for trucking 100 tons of sorted ore to custom mill	500.00
Custom milling charges for 100 tons	800.00
	$5,300.00
Operating capital for mining and sorting an additional shipment of 100 tons of sorted ore	4,700.00
Total required	$ 10,000.00

The second shipment would be processed while waiting for returns from the first shipment.

E.H.Jamieson Applicant

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington.

COPY

Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA
FOR USE UNDER THE
DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT
Docket No. Dma-520
Date received 5/18/51

E.H.Jamieson
414 East 17th Ave.
Spokane 10 Washington

Name and address of applicant

Date May 14,1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, ~~(4) Necessity Certificate pursuant to the provisions of Sec. 124-A (Amortization Deduction) of Internal Revenue Code, 1950,~~ ~~(5)~~ priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and ~~(6)~~ 5 other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced: Exhibit 1
   - (*a*) What are the chief mine, mill, or smelter products?
   - (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry(ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following: Exhibit 2
   - (*a*) Linear feet of shafts.
   - (*b*) Linear feet of drifts and crosscuts.
   - (*c*) Linear feet of tunnels or adits.
   - (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   - (*a*) Distance and direction from nearest town and shipping point. Exhibit 3
   - (*b*) Mining district.
   - (*c*) Township, Section, Range.
   - (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as: Exhibit 4.
   - ☐ Owner.
   - ☐ Lessee.
   - ☐ Contractor.
5. Number of years in production ____________

   If not in production or operation, estimated date when production will begin ____________
6. Experience of operators: Exhibit 5

   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History: Exhibit 6
   - (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   - (*b*) State briefly the known history and production of adjoining and neighboring properties.
   - (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation		Life Insurance Carried for Benefit of Applicant	
				Common (e)	Preferred (f)	Amount (g)	Net Cash Surrender Value After Loans (h)
	Total		x x x x x			x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$	$	$		
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)					
2. Quantity of product processed (specify unit of measure and type of process)					
3. Quantity and grade of product sold or shipped (specify units of measure)					

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change. Exhibit 7

12. Ore or Mineral Reserves: Exhibit 12

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

Form MF-100 Exhibit 1.

E.H.Jamieson 414 East 17th Ave. Spokane 10 Washington.

Question 1.
(a) Tungsten concentrates.
(b) Silver,molybdenum and iron pyrite.

Exhibit 2.

Question 2.
(a) No shafts
(b) Drifts 70 feet; crosscuts 40 feet.
(c) Adits 260 feet
(d) Discovery work on 15 claims

Adits are self draining.

Exhibit 3.

Question 3.
(a) Closet town Cedonia,Wash.-7 miles Southwest of mine.
Nearest shipping point Addy,Wash.-18 miles East of mine.
(b) Summit Mining District
(c) Twnp.32 N,Sec.19 & 30,Range 38Ewm.
(d) Stevens County,State of Washington.

Exhibit 4.

Question 4.
(a) Current development-E.H.Jamieson,Operator.
(b) Lessee and part owner.

Exhibit 5.

Question 6.

Mining experience:

Member Board of Directors of Metaline Mining and Leasing Company 1929 and 1930. Resigned on sale of that property to American Zinc.
Locator of Columbia Group of lode mining claims.
One of the Incorporators of Columbia Tungsten Corporation, a Washington corporation of $100,000.00 capitalization.
Secretary and Treasurer of same 1938 to 1941.
President and General Manager of same to 1949.
Lessee of Columbia Tungsten properties March 3,1949 to March 31,1952.
Supervision of current development of property.

Business Experience:

President and Manager of Jamieson Investment Company,a Washington corporation operating farm lands,orchards, apartment houses and business properties-1916 to 1939 when the corporation was voluntarily dissolved and liquidated.

Exhibit 6.

Question 7.

(a) An exploratory adit driven alonside the ledge for a distance of 196 feet proves the ore to a vertical depth of 100 feet. Seventy feet in from the poratl of this adit a crosscut has been driven to the east and south and at a point about twenty feet in from the adit this crosscut cuts a vein believed to be the wesrtern band of the parallel veins disclosed on the surface.This adit is at an elevation of 5,000 feet and is 1200 feet vertically below the crest of the mountain.
100 feet below the exploratory adit,a tunnel has been driven in a northeasterly direction for a distance of 65 feet.
Directly above the portal of the exploratory adit a drift has been driven on the vein exposure for a distance of 70 feet. The quartz lens is over ten feet in width at the prtal of the drift. There are three distinct quartz veins shown in the drift which is 5x7'.
An examination was made of the surface exposures at night,using the ultra-violet ray lamp. The area was "checkerboarded" in 25 foot squares and examined for tungsten fluoresence.
In 1950 the mineralized zone was diamond drilled- in a southeasterly direction from the portal of the drift for a distance of 95 feet and in a northeasterly direction for a distance of 100 feet. Lack of finances shut down this drilling.

(b) The Washington Metals,an adjoining property consisting of two patented claims has a record of surface trenching of the veins, and a small underground production. This operation was suspended in 1938 and the amount of their production is not recorded.
The "Germania Mine",situated on the same range of mountains as Columbia Tungsten was originally operated by the German Government until we entered World War I. They operated for over five years. No records are available as to the amount of their production and in the years between the abandonment of the Germania by the Germans and the purchase of the property by General Electric there are no production figures available. However the Geology Division of the State of Washington gives a production record of the Germania under G.E. ownership as 1250 tons of high grade tungsten concentrates. Private individuals are working the Germania at present.
Germania Consolidated,adjoining the Germania,has a record of over $100,000.00 production and at present this company is rehabilitating their 50 ton mill and intend to start production and custom milling within 60 days. The applicant intends to truck his highgrade ore to this mill this summer.

(c) "As exposed by the ore exploratory tunnel on the Columbia No.3 claim, the ore deposits occupy fissures in granite and have been developed by tunnel and crosscuts underground for a distance of 75 feet along its strike and 250 feet on the supposed continuation of the vein. Its vertical depth has been proven for a distance of 100 feet and extensive surface workings lead to the supposition that it extends to the top of the mountain which is 1200 feet above the discovery strike. The average width of the orebody is about three feet,although in some places it is over six feet wide and in others it narrows to four inches. This is characteristic of lenticular veins. It is in the narrower widths that the enrichment is the strongest,assays of cross-samplings having returned as high as 15 per cent tungsten content. Over the average width of the ore-body,as exposed, one and one-half to two per cent is a conservative value,as shown by assays.

Exhibit 6-cont.

Post mineral faulting has in many places broken the continuity of the veins. These breaks run from east to west,which is the identical geological situation found in the "Germania Mine". Such displacements run from 7 to 30 feet.

The vein filling is chiefly quartz of the massive variety which is mostly white in color,but in some cases gas a slightly bluish tint. It also contains some black tourmaline and green fluorite as well as some pyrite.

The veins are mineralized in a more or less pockety manner by a ferberitic wolframite with which is associated scheelite and pyrite and molybdenum.

You have in these claims the ideal setup for cheap and extensive mining and production. As far down as the 1200 foot level,all ore can be taken out by gravity,thus eliminating the expense of hoisting ore and sinking shafts. It is a demonstrated fact that surface mining of tungsten is the cheapest and fastest method known and in view of the amount of tungsten ore and the size of the ore-shoots on the surface,I recommend that surface mining be carried on in conjunction with underground development. It would be very easy to produce enough ore in this manner to run a mill of 25 tons daily capacity. The cash returns from your milled concentrates will more than pay the cost of development,once your mining and milling machinery is installed. Ore bunkers should be constructed to take care of the excess ore until development warrants a larger mill!

(Signed) F.M.Handy E.M.
Spokane Wash.

Exhibit 7.

See details in Exhibit 14.

Exhibit 8.

See exhibit 6-report on ore deposits by F.M.Handy,E.M.

Geology: The Summit district lies in west central Stevens County along Columbia River,having as its eastern boundary the great quartzite ridges known as the Huckleberry Mountains. It includes most of townships 32 to 34 N.of ranges 37 and 38 EWM.

Maximum elevations are 6,000 feet above sealevel,giving total relief of about 4,500 feet above the level of the lake formed by the Grand Coulee Dam. Drainage is all westward to the Columbia thro Harvey and Stranger creeks and a number of lesser,mainly intermittent,short streams.

As mapped by Weaver,the rocks of the district include the Mission argillite,the Colville quartzite,the Chewelah argillite and some undifferentiated limestone,all belonging to the Stevens series of Paleozoic age. These have been intruded by a small stock of the Loon Lake granite,which is locally nearly as basic as diorite in this area. In general the sedimentary beds dip away from the intrusive,but fault ing has produced a reversal in many places,giving rise to rather complicated structures. Three properties,the Daisy,Columbia Tungsten and Washington Metals have shown the occurence of tungsten.

Exhibit 8-cont.

The Columbia Tungsten Corporation holds 15 claims in Sections 19 and 30,Twp. 32 N,Range 38 EWM. The veins being developed lie a quarter mile north of the Addy-Bissel road that joins State Highway 22 at a point 2 miles north of Cedonia.
The claims are situated immediately west of the divide between Columbia River and Mill Creek,the latter being a tributary of Colville River. Much of the area is forested,particularly the northern slopes. Water is obtainable from streams and springs.
The country rock is a porphrytic granite whose surficial area is about 2½ sq. miles;it is intrusive into gray arkosic quartzites and argillites of the Stevens series. A few hundred feet from the west contact the granite is cut by quartz veins that trend north-northeast and dip from 50 to 90 degrees, mostly southeast. These veins are exposed on the barren mountain side for a distance of over four hundred feet . The mountain side is steep-averaging 45 degrees in pitch.

Exhibit 9.

(1). Surface assays across veins of quartz running up the area to be mined (parallel bands averaging one foot in width into which "gash or feeder" veins intrude) taken every feet feet from the portal of the adit total an average of better than 2% WO_3 for a distance on the surface of 400'. Hand concentration of a "batch sample of 300 pounds of mine run ore taken out of the drift(5' in width) produced 6½ pounds of WO_3 concentrate 61.37%WO_3. The continuation of these veins has been proved for a length of 196 feet underground by the exploratory adit and their vertical depth has been established for 100 feet. The indicated reserve is estimated at a length of over 400 feet and a depth of 300 feet.
(2) Proven ore reserve 3400 tons(short tons)
Indicated ore reserve is estimated at 22,500 short tons.
Formula used:
Cubic foot content determined: $\frac{\text{Length x Depth x Width}}{2}$ equals volume.
8 cu.ft. of ore in place equals 1 short ton.

Exhibit 10.

To RR shipping point - 18 miles. 5 miles of dirt road-balnce hard surfaced.
Access to supply point -26 miles.5 miles dirt - balance hard surfaced.
To custom mill 25 miles- 15 miles dirt- balance 10 miles hard surface.

Exhibit 11.

Sufficient water for camp and mining purposes is available the year round from drainage of adits.

Exhibit 12.

Gasoline or Diesel power for compressor.

Exhibit 13.

Combination bunk and cookhouse for 6 men. Good condition.Outbuildings.
Ore-bin 30x10x12 with trackage overhead. Ore gates for loading trucks.
No major mining equipment as all work has been done by contracting.

Exhibit 14.

The tungsten ores in this deposit are ferberitic wolframite and scheelite. The wolframite mineralization occurs mainly in the quartz gangue and in most cases is surrounded and filmed over by small scheelite crystals causing good fluorecsence and thus making it easy to sort under the violet-ray lamp. The scheelite also occurs to shallow depth in the granite enclosing the veins. A brownish scheelite occurs in large crystals in the gray quartz.

As the operation of highgrading scheelite ores has been sucessfully carried in small deposits I have arrived at a program for mining and sorting the ores contained in the quartz veins which should be a profitable operation on a small scale. It is my intention to mine and sort enough ore to obtain at least 500 tons of highgrade sorted to 5 or more per cent WO_3 content. This will be trucked to a custom tungsten mill about 25 miles distant and concentrated. It being a surface mining operation, the cost of mining will be low and by sorting to 5 per cent tungsten content under the lamp almost all of the waste will be eliminated and only the highgrade will be trucked and milled. From experiments conducted by myself it takes approximately 5 tons of the mine- run ore to obtain one ton of 5 per cent ore. The ore will be piled for sorting at the base of the vein zone and from there will be run thro a darkened shed built over the ore-bin on a platform conveyor and two men will work under an ultra-violet ray sorting lamp, throwing the highgrade in the bin and the low grade on the dump. The sorting will be a per diem basis under my direction but all otherv phases of the work will be let by contract to local men.

The purpose of this operation is two fold: to determine if the exposed ore can be profitably mined and milled and to build up an operating fund for the purchase of mining and milling machinery, if successful. It is estimated that I can mine and sort enough ore every thirty days to obtain 100 tons of 5 per cent high grade. The mill will not take less than 100 tons and I will have the first hundred tons of high grade trucked and milled and then if this batch shows a profit will use the profit to produce the balance of 400 tons. A payment of 12½% of the Net Mill Returns will have to be paid the Columbia Tungsten Corporation as royalty. The balance will be paid on the loan if obtained.

There are several tungsten properties within hauling distance of the custom mill that are developed sufficiently to interest private capital for production and if this operation is feasible it could be used as a yardstick for production from these prospects.

(b) If deposit is other than placer: Exhibit 9

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)	3400 s.t.	%WO_3 1-1½	$63.00	$55.20	$16.00
Indicated (probable)	22,500 s.t.	%WO_3 1	$63.00	$55.20	$20.00

(c) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads: Exhibit 10

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply: Exhibit 11

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power: Exhibit 12

State amount of power used, rate per hour, and source thereof.

16. Labor: Inapplicable

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities: Exhibit 13

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain. Exhibit 14

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.

(Name of company)

By Earl Jamison
(Signature of authorized official)

(Date)

Lessee
(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—63792-1

Columbia Tungsten Corp

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

April 17, 1951

Hon. Warren G. Magnuson
United States Senate
Washington, D.C.

Dear Senator Magnuson:

This will acknowledge your inquiry dated March 12, 1951 and enclosing a letter from Mr. Lewis T. Ballard relative to the application of Mr. J. H. Jamieson for a loan to operate a tungsten property in Stevens County, Washington.

The application of Mr. Jamieson was reviewed by the Defense Minerals Administration, and the request for a loan of $67,500 was denied. A copy of our letter to Mr. Jamieson is enclosed.

Neither our previous information nor that presented by Mr. Jamieson indicates that his deposit contains sufficient tonnage and grade of ore to warrant a loan of this size. However, it is possible that he may qualify for a small exploration loan, and he has been so notified in the copy of the attached letter.

Sincerely yours,

JAMES DOUGLAS

Acting
Administrator

Enclosure
TJBallard/mh
cc: Adm. Reading File
Mr. Bradley
Mr. Douglas
Mr. Strobel
Files

LANDON F. STROPE,

United States Senate

March 12, 1951

Respectfully referred to
Administrator
Defense Minerals Administration
Department of Interior

with thanks for such favorable consideration as the communication herewith submitted warrants, and for a report thereon, in duplicate to accompany return of inclosure.

By direction of

U. S. S.

WARREN G. MAGNUSON,

DMA 580-
MAR 15 1951
reply

LEWIS A. HUBBARD
300 DOUGLAS STREET
WENATCHEE, WASHINGTON

Phone 337

March 8, 1951

Senator Warren G. Magnuson
Washington, D.C.

Dear Senator:

I am enclosing a letter which I received from Mr. Jamison, concerning the tungsten lode in Stevens County, which I believe to be self explanatory.

I want to thank you for taking the time and spending the effort to help us on this most essential matter.

Mr. Jamison is a well qualified mining man, and I am positive that he at least knows the tonnage is there.

I think that there should be an investigation made of the U.S. Geological Division to ascertain why these offices are not operating in a more efficient manner.

If you can be of any further assistance in this matter, it will be greatly appreciated.

Sincerely,

Lewis A. Hubbard

Lewis A. Hubbard

LH:mr

LANDON F. STROBEL

United States Senate

March 3, 1951

Respectfully referred to
Administrator
Defense Minerals Administration
Department of Interior

with thanks for such favorable consideration as the communication herewith submitted warrants, and for a report thereon, in duplicate to accompany return of inclosure.

By direction of

WGM

WARREN G. MAGNUSON, U. S. S.

Mr. Bradley
MAR 15 1951
reply for Bradley signature

Wenatchee Wash
Honorable W. G. Magnuson
M.C.
February 26, 1951

Dear Sir, -

I am writing in regards to a matter of great importance to me. It means a lot to my future as well as others.

I have reference to a large deposit of Tungsten ore situated about sixty (60) miles north of Davenport, Stevens County, Washington.

This property is controlled by the Columbia Tungsten Corporation of which I am a stock holder and therefore explains the importance of the matter to me.

During the World War II the government loan agency scoffed at the mere mention of advancing our company a loan to produce the needed Tungsten and which

Please note: As previously advised, Let. sent to Magnuson 3/2/51 re his let. 2-12-51, re. appl. of E. H. Jamieson, DMA-520, who is Gen. Mgr. of the Co. referred to by Mr. Thompson. This letter covered information requested. Letter of Mr. Thompson is being returned to Sen. Magnuson today, advising the inquiry made in his lett. of 4-3 was answered in our letter 3-2-51.

According to attested assays, this property will produce on an average of 1.78% Tungsten Concentrate per Ton of mined ore, which, in itself is very good percentage. (Read our application now on file with W.M.A.)

Mr. E. H. Jamison, 414 East 17th Ave., Spokane 10, Wash, is General Manager of our company. He has filed form WSAB-146, with complete data, with Mr. Boyd, head of the W.M.A., and according to mortgage funds have been allocated for the purpose of securing new sources of strategic metals, of which Tungsten is considered, and now so designated by our Government

Now Congressman Murray comes up with his Mine "Incentive" plan or "Subsidy" plan. Honestly, it will not benefit our outfit

one bit, only hamstring it and is useless to us.

Mr. Magnuson, I served as president of the Chelan County Young Democrats Club of Wenatchee, for 2 years member of the Chelan County Democratic Central Committee, serving with Mr. Otto Bias & Mr. N. J. Neffell, both of whom, I'm sure, you are well acquainted with, Also served as Secretary for the Young Democrats Club of the State of Washington. So far I have asked for nothing, in return for my services to the Democratic party and its candidates.

But now Sir, I'm asking a favor of you, if you please. I know your time is very valuable and you little to spare, but want you please see Mr. Boyd, the head of the W.M.A. in Washington D.C.

and give our application for assistance a much needed boost.

One of the other members from Everett, Washington informs me he has written Mr. Jackson to do the same.

This is the essence of all things sir, and again I ask you to please do this for me as it means a lot to me as well as my associates and the development of the northwest you will never regret it.

Thank you for taking a few moments of your valuable time to read my letter and trusting in you to give our application the big boost it really needs, by seeing Mr. Boyd in a squeezed in moment.

Thanking you again for the above I am

Yours very truly

T. H. Thompson

Apt 305 Vredenburg
Wenatchee, Washington
(Chelan County.)

P.S. The application was filed under the name of the Columbia Tungsten Corporation, in the amount of 450,000.00 for the purpose of mining & producing tungsten concentrate, vitally needed by our government.

J.

FILE COPY
SURNAME:

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

Geehan
Kelley
Moon
Strobel 4/11

April 9, 1951

Hon. Henry M. Jackson
House of Representatives
Washington, D. C.

My dear Mr. Jackson:

Reference is made to your letter of February 22, regarding an application filed by E. H. Jamieson, Manager, Santa Fe Tungsten Syndicate.

This application, DMA-520, was rejected as a production loan because of insufficient information as to ore reserves. Mr. Jamieson was informed of this action on March 16. At that time it was suggested that he contact Mr. A. E. Wiessenborn, Executive officer of DMA field team in Region II, so 157 Howard Street, Spokane 8, Washington, concerning exploration loans.

A copy of your letter has been forwarded to Mr. Wiessenborn with a request for information as to any application filed for such a loan by Mr. Jamieson.

JAMES BOYD

Administrator

RWGeehan/mjb

Copy to: Admin. Reading File
L. Strobel
L. B. Moon
A. E. Wiessenborn-Spokane, Wash.
P. R. Bradley
R. W. Geehan
Ferrous M&A
Files

May 24, 1951

File content to Field

DMA - 520
E. H. Jamieson
Spokane, Washington

2. Application Forms

103 and attachments

Sent to Coord. Committee
5-25-51

Mr. [illegible] Heinsenberg, Executive Officer
DMA Field Team, Region II
No. 157 Howard Street
Spokane 8, Washington

Subject: DMA 520 - Jamieson Tungsten

Dear Mr. Heisenberg:

Mr. E. H. Jamieson, 414 East 17th Avenue, Spokane 16, Washington has requested an exploration loan of $9,000 toward a $17,000 project of diamond drilling at the Columbia Tungsten claims, Stevens County, Washington.

Mr. Jamieson's previous proposal (DMA 520) for a production loan of $67,500 was denied because of inadequate ore reserves.

It is not clear to the Tungsten Commodity Committee what Mr. Jamieson will achieve by the proposed diamond drilling. However, some production might possibly be made from the small veins if properly prospected. Please give us your recommendations about the proposed drilling and also about the feasibility of undertaking some other form of exploration.

The revised application, Form DF-101, is enclosed.

Yours very truly,

Tom Lyon
Chairman, Coordinating Committee

Enclosure

Approved by:

For the Bureau of Mines

For the Geological Survey

Copies to: Surname copy
Dr. Boyd
Mr. Strobel
Mr. Bradley
Mr. Moon
Mr. Rove
Mr. Thayer

DHLmcoright

5/23/51

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

Mr. E. H. Jamieson
414 East 17th Avenue
Spokane 10, Washington

In reply please refer to DMA-520 [illegible]

Dear Mr. Jamieson:

Your revised application for an exploration project costing $12,000 at the Columbia tungsten property has been referred to Mr. A. E. [illegible]eissenborn, No. 157 Howard St., Spokane 8, Washington for recommendation.

Mr. [illegible]eissenborn will probably wish to consult with you in the near future.

Yours very truly,

Tom Lyon
Director, Supply Division

DMLemmon:gt

5/23/51

Copies to: Surname copy
Dr. Boyd
Mr. Strobel
Mr. Bradley
Mr. Rove
Mr. Moon
Mr. Thayer
Field Team, Region II

520

Exploration

Application for $12,000

refused to field 5/24/5,

FILE CONTENT TO WEISSENBORN

DMA-520
E. H. Jamieson

Letter to DMA from Mr. Jamieson

Completed form MF-100

DRAFT

Mr. A. E. Weissenborn, Executive Officer
DMA Field Team, Region II
~~[illegible]~~
So. 157 Howard Street
Spokane 8, Washington

DMA 520- Tungsten
E. H. Jamieson
Production loan

Dear Mr. Weissenborn:

On May 28 we referred to you for field review an exploration application from Mr. E. H. Jamieson of Spokane, requesting funds to diamond drill the Columbia Tungsten property. Mr. Jamieson subsequently submitted another application, his third, for a production loan of $10,000. Apparently he intends to withdraw the exploration proposal.

We are sending you a copy of the third application, dated May 14, and wish your recommendation. This request for funds to use in production of tungsten ore for shipment to a custom mill is the first practical proposal we have received from Mr. Jamieson. We appreciate that his change in viewpoint probably resulted from conferences with you.

Is Mr. Jamieson's statement correct that the Germania Consolidated Co. is re-conditioning its mill and will take custom ore?

Sincerely yours,

Tom Lyon
Chairman, Coordinating Committee

Approved:

~~For the Bureau of Mines~~

~~For the Geological Survey~~

enclosure

D.M.Lemmon
May 31, 1951

LONDON F. STROBEL
Bradley

LEWIS A. HUBBARD
308 DOUGLAS STREET
WENATCHEE, WASHINGTON

Phone 537

March 8, 1951

Senator Warren G. Magnuson
Washington, D.C.

Dear Senator:

I am enclosing a letter which I received from Mr. Jamison, concerning the tungsten lode in Stevens County, which I believe to be self explanatory.

I want to thank you for taking the time and spending the effort to help us on this most essential matter.

Mr. Jamison is a well qualified mining man, and I am positive that he at least knows the tonnage is there.

I think that there should be an investigation made of the U.S. Geological Division to ascertain why these offices are not operating in a more efficient manner.

If you can be of any further assistance in this matter, it will be greatly appreciated.

Sincerely,

Lewis A. Hubbard

Lewis A. Hubbard

LH:mr

LANDON F. STROBEL

DMA 520

Mr. Bradley

Spokane Washington

March 6,1951

Dr.Louis A.Hubbard
732 Orondo Ave.
Wenatchee Washington

Dear Mr.Hubbard:

In regard to the communication from Warren G.Magnuson to you under date of February 28,1951(a copy of which was sent me by Mrs.Huntley) in which he states that my application to DMA is being held in abeyance for the reason that the representative of the U.S.Geological Survey in Spokane can not agree with my statement of the size of the deposits on the property of Columbia Tungsten Corporation,may I clear up this point with the following information.

First: There has been no examination of the deposits on this property by the U.S.Geological Division. Therefor they can not agree or disagree with the estimated tonnage inferred in my application.

Second: The Spokane office of the U.S.Geological Survey had in their office the cores from three holes that were diamond drilled last Summer and made a perfunctory examination of them. The cores were returned to me in the same shape that they were in when I took them to their office- they had not split or broken any of them as is required in a fair examination. There were no tests made to determine the tungsten content or chemical identification. They did have an "ultra-violet" lamp in the office and possibly put the cores under the rays. As you know I have one of those and have found it of the greatest benefit for scheelte disclosure and in cases where the wolframite crystals are "ringed" and filmed over by the scheelite it also discloses the wolframite. On the surface and in the fractured lenses this condition prevails but in the cores taken from depth the wolframite is not encroached upon by scheelite and therefor what wolframite crystals are in the cores do not fluoreces under the lamp. Therefor it is necessary to distinguish the wolframite by visual means and identify the crystals as tungsten by chemical test.

I have had very unsatisfactory experiences with both the Bureau of Mines and the U.S.Geological Survey in attempting to get a thorough examination of the property. They are always short of manpower or else have no funds allotted to the examination of tungsten properties.

On Armistice Day 1948,I did wangle the services of a field engineer from the Bureau of Mines and we left here at eight o'clock in the morning and got on the property at eleven A.M. and as it started to snow he made his entire examination(?) before four o'clock of that same day. He did not use a lamp on the surface exposures and did not measure the width of the exposed zone. He took a few samples and sent them to the Albany office to be assayed. Four months later I received a letter stating what he had found. This last Summer when I wanted to consult the file in their office they could not find it. That ended my experience with the Bureau of Mines.

I have consulted several geologists and reputable mining engineers in Spokane relative to making examinations and they all agree that a thoro examination for a property of that size would take at least three days and possibly four. Such an examination and report would cost $750.00.

NOW! if the DMA will give me an engineer and geologist for four days on the property I will see that they really examine all points and that includes an examination at night with the "Mineralite". If they will stay up there with me for three days and nights I feel confident that I can show them enough tungsten so that they can recommend some plan to get it out and concentrated.

The only geological survey of the property was made by the Geology Division of the State of Washington in 1940 and that was another "run-over". Since that time a drift has been punched in 75 feet,500 feet of diamond drilling done and careful examination of tungsten exposures made by using the "Mineralite". So who are they to sit in the office and know what is in that property.

The plain truth of the whole situation is that they have no plan or program mapped out in Washington D.C. and too many agencies are trying to run it. All is confusion-they have changed their minds and plans several times since the first of the year.
First it was that the RFC would make the loans-now the local banks are to do that acting under guarantee of the Federal Reserve Bank.

I hope that they get organized soon so that all the money allocated will not go toward administration and agency expense but that a few dollars will eventually reach the applicants.

I appreciate Mr.Magnuson writing you and am also grateful to the other Congressmen from Washington for their assistance in seeing that this application was not by-passed and am writing them that all we expect is a fair examination of the property by competent men and then let the application by certified or not on its merits. There are no Members of Congress going to get an expense-free vacation in Florida out of us and we are not dealing with any "influential for 5% of it" men either.

I am looking forward to the time when you can get up on the property with me and let your vision tell you more than I am able to.

Best regards to you and Mrs.Hubbard,

Yours very truly,

E.V. Jamieson

LANDON F. STROBEL

United States Senate

February 12, 1951

Respectfully referred to
Administrator
Defense Minerals Administration
Department of Interior

with thanks for such favorable consideration as the communication herewith submitted warrants, and for a report thereon, in duplicate to accompany return of inclosure.

By direction of

Magnuson

WARREN G. MAGNUSON, U. S. S.

DMA-52c
Mr. Bradley
2-14-51
Acknowl.
Reply

LEWIS A. HUBBARD
300 DOUGLAS STREET
WENATCHEE, WASHINGTON
Phone 337

February 7, 1951

Senator Warren G. Magnuson
U.S. Senate
Washington D.C.

Dear Senator Magnuson:

I know that you are interested in helping the Pacific Northwest grow, as well as our defense effort carried out to its maximum.

I am interested in a tungsten lode in Stevens County which has been proven by diamond drilling as well as tunneling, to contain a high percentage of this very strategic metal.

A loan from the Defense Material Administration has been applied for by Mr. E.R. Jamison, representing the Columbia Tungsten Corporation leasees.

I am wondering if you would check with Dr. James A. Boyd, Director of the Defense Material Administration regarding this matter. Any help which you can give to our advantage will be greatly appreciated.

We are anxiously waiting to hear from the Chiropractic Bill for the veterans also, as we have a number of them which we are caring for, who receive no help from the Veterans Administration.

Sincerely,

Lewis A. Hubbard

Lewis A. Hubbard, D.C.

LH:mr

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
No. 157 Howard Street
Spokane 8, Washington

January 25, 1951

1-30-51
Bradley

Mr. James Boyd
Deputy Administrator
Defense Minerals Administration
Department of Interior
Washington 25, D.C.

DMA 5220

Dear Mr. Boyd:

I am enclosing an application from Mr. R.H. Jamieson of 414 East 17th Avenue, Spokane 10, Washington, for a DMA loan on the Columbia Tungsten Co.'s property in Stevens County, Washington. Enclosed also are four copies from our files of a brief memorandum report on this property prepared in October 1941 by Mr. S. Warren Hobbs of this office. You will note that there is an appreciable discrepancy between Mr. Hobbs' and Mr. Jamieson's appraisals of the property. Last summer the cores of the diamond drill holes from the property were inspected in this office; perhaps we missed something, but we failed to observe enough tungsten minerals in the cores to justify analyses. There was, however, a fluorescent mineral that was identified as calcite.

Inasmuch as some work may have been done on the property since Hobbs examined it in 1941, I presume that it will be necessary to make another examination, but this obviously cannot be done until the snow is off the ground.

Sincerely yours,

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

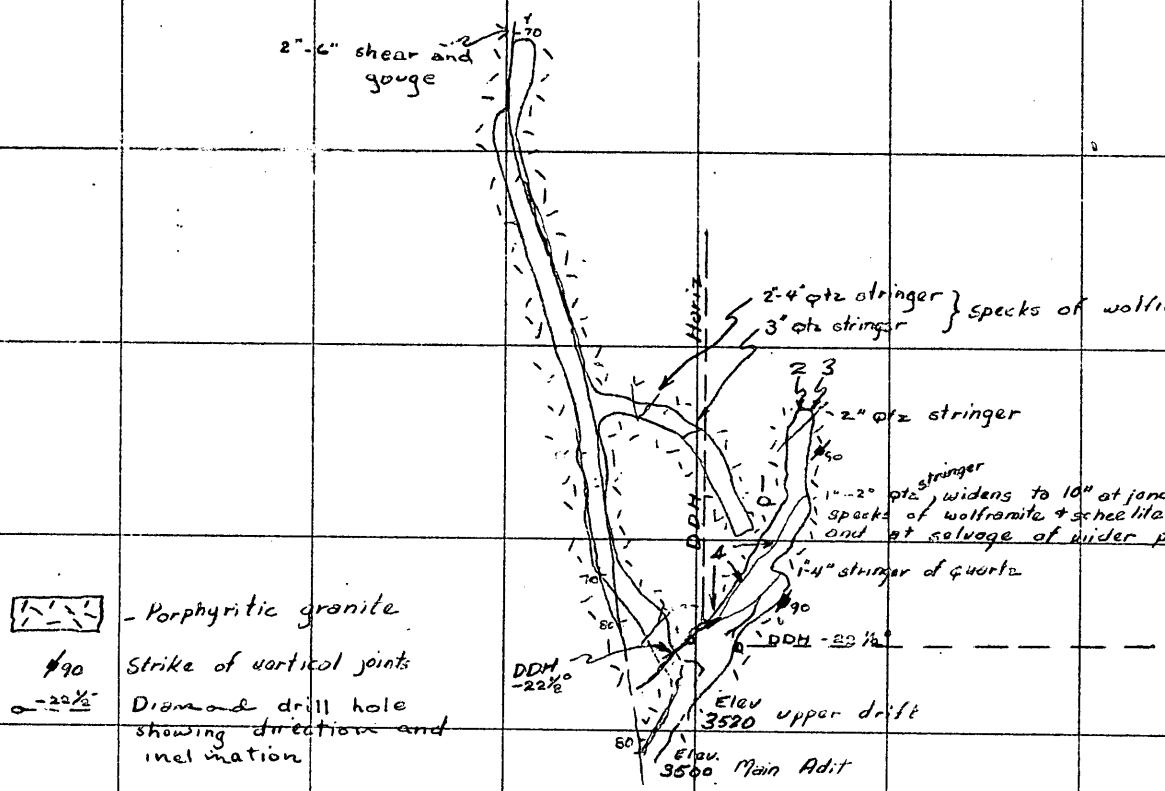
cc: Olin Reed

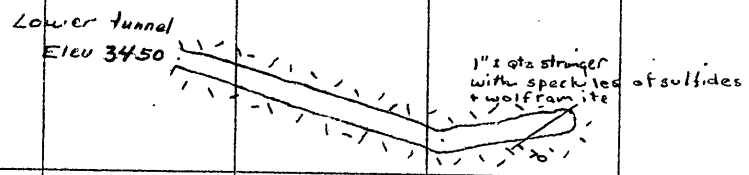
Enclosure:
Application-original and three copies
Memorandum report-four copies

DMA-520

Bureau of Mines Assays (1948)

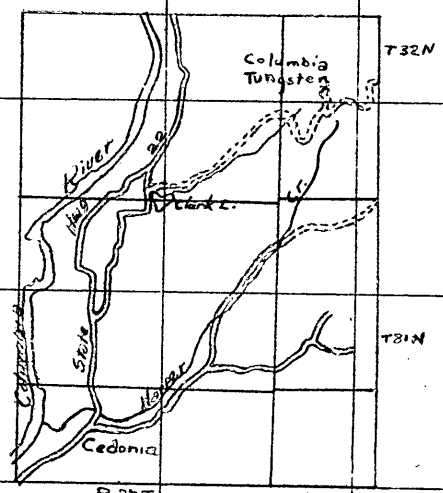
No	Description	Feet Width	Au	Ag	WO_3	Mo
			-oz-		-%-	
1	Sample from outcrop	0.8	0.01	0.11	0.41	0.13
2	Scheelite in granite	2.4	0.01	0.75	0.03	(0.01
3		2.2	Tr	Tr	nil	(0.01
4	Composite 3 cuts	0.8(Av)	0.02	2.82	0.24	0.06





Geology of Underground Workings
Columbia Tungsten Claims
Stevens Co., Wash.
Scale 1" = 40'

A.B. Griggs 6-6-51

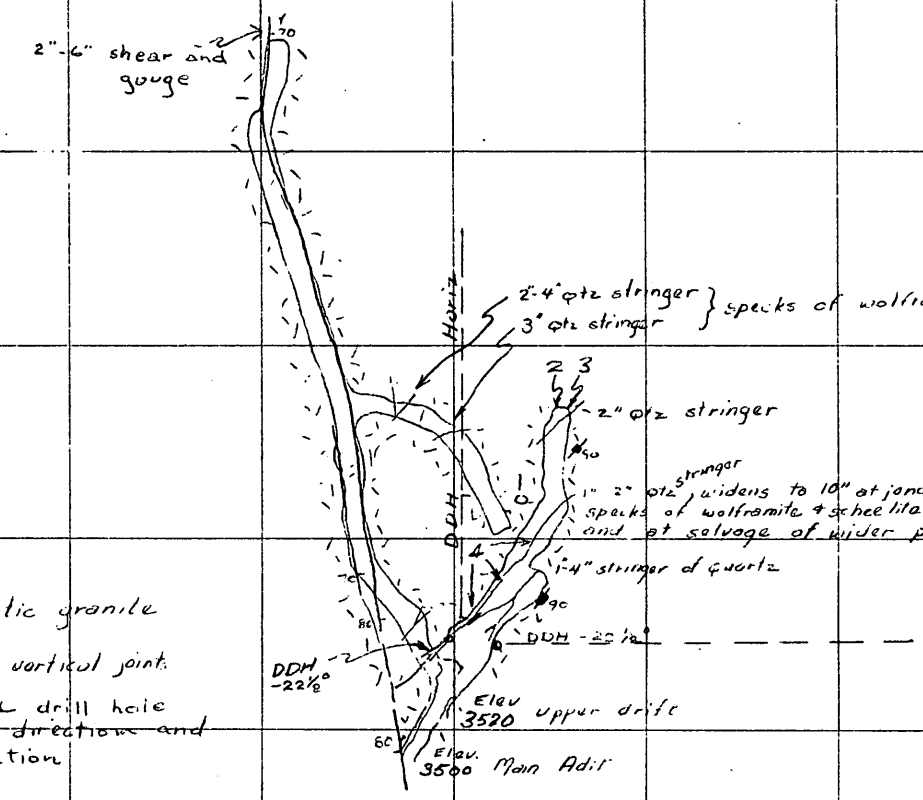


Index Map
Columbia Tungsten claims
Stevens County, Wash.
0 2 3 4 Miles

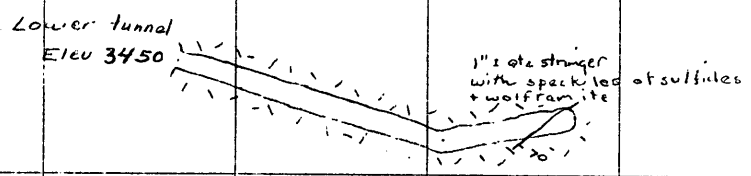
DMA-520

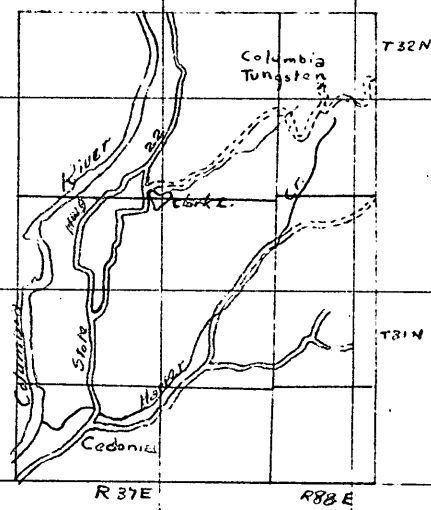
Bureau of Mines Assays (1448)

No	Description	Width (Feet)	Au (oz)	Ag (oz)	WO_3 (%)	MO (%)
1	Sample from outcrop	0.8	0.01	0.11	0.41	0.13
2	Scheelite in granite	2.4	0.01	0.75	0.03	<0.01
3		2.2	Tr	Tr	nil	<0.01
4	Composite 3 cuts	0.8 (Av)	0.02	2.82	0.24	0.06



- Porphyritic granite
- 90 Strike of vertical joint
- -22½° Diamond drill hole showing direction and inclination





Geology of Underground Workings
Columbia Tungsten Claims
Stevens Co., Wash.
Scale 1" = 40'

Index Map
Columbia Tungsten claims
Stevens County, Wash.
0 1 2 3 4 Miles

A.B. Griggs 6-6-51

DMA-520

Bureau of Mines Assays (1948)

No	Description	Width Feet	Au -oz-	Ag	WO_3 -%-	Mo
1	Sample from outcrop	0.8	0.01	0.11	0.41	0.13
2	Scheelite in granite	2.4	0.01	0.75	0.03	(0.01
3		2.2	Tr	Tr	nil	(0.01
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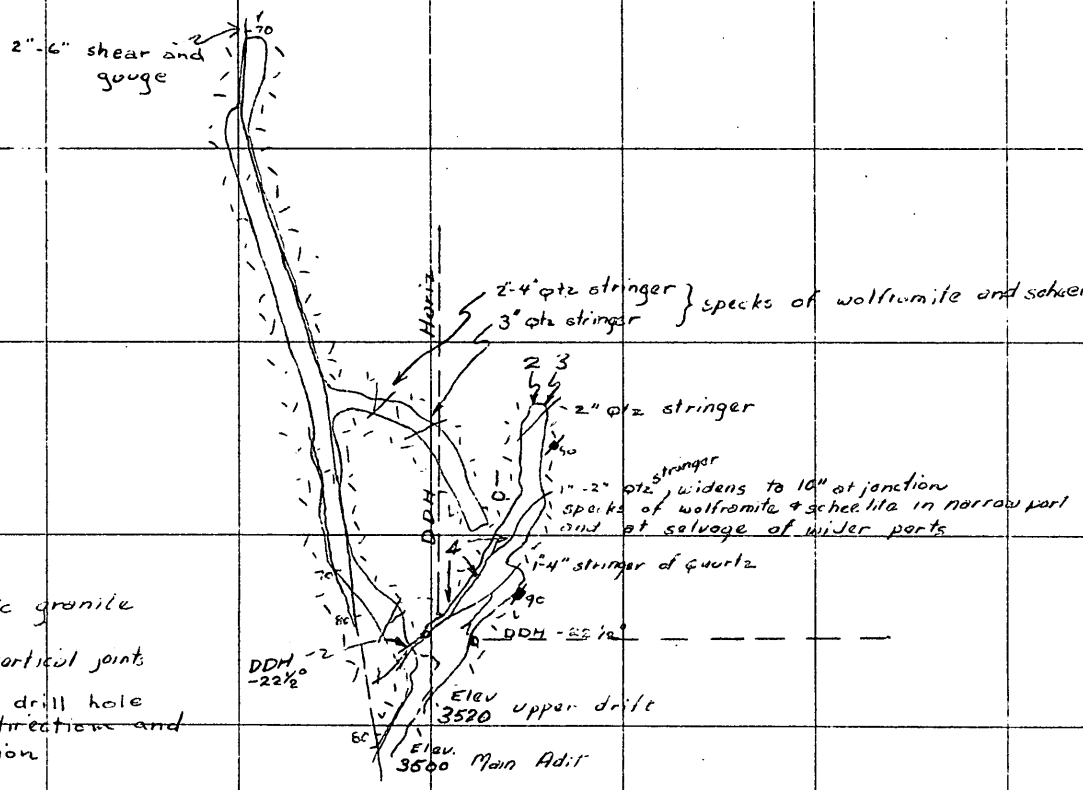

- Porphyritic granite
- 90 strike of vertical joints
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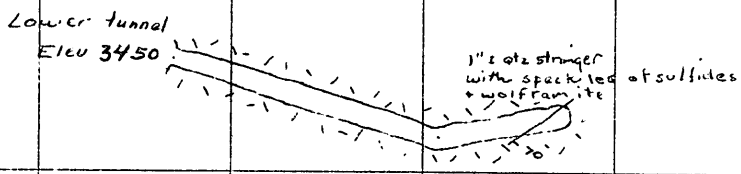
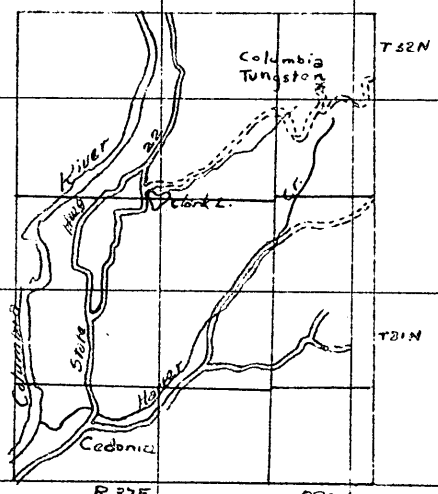


Geology of Underground Workings
Columbia Tungsten Claims
Stevens Co., Wash.
Scale 1" = 40'

A.B. Griggs 6-6-51



Index Map
Columbia Tungsten Claims
Stevens County, Wash.

DMA-520

Bureau of Mines Assays (1948)

No	Description	Width Feet	Au -oz-	Ag	WO_3 -%-	Mo
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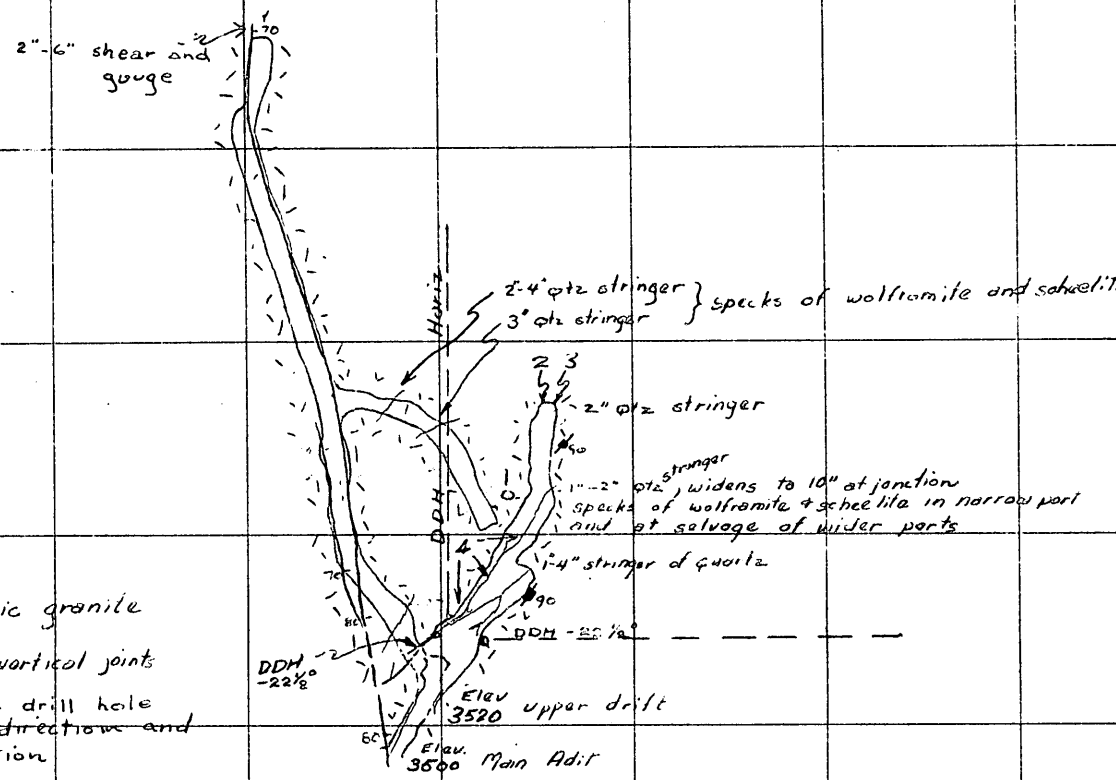
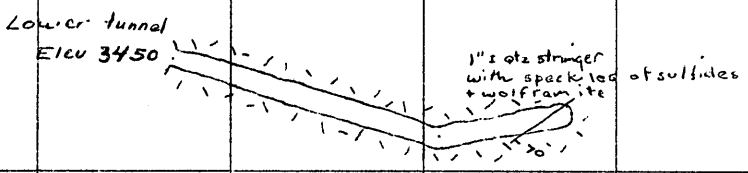
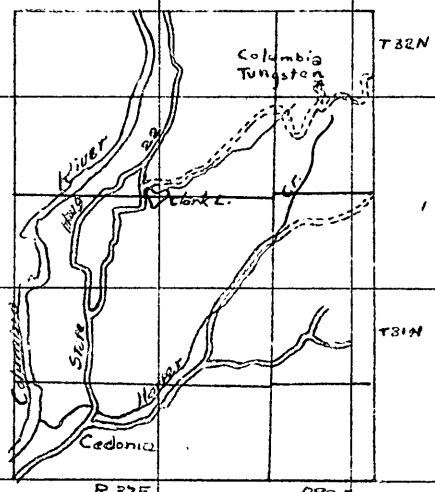




Geology of Underground Workings
Columbia Tungsten Claims
Stevens Co., Wash.
Scale 1" = 40'

A.B. Griggs 6-6-51



Index Map
Columbia Tungsten claims
Stevens County, Wash.
0 1 2 3 4 Miles

DMA-520

Bureau of Mines Assays (1948)

No	Description	Feet Width	Au	Ag	WO_3	Mo
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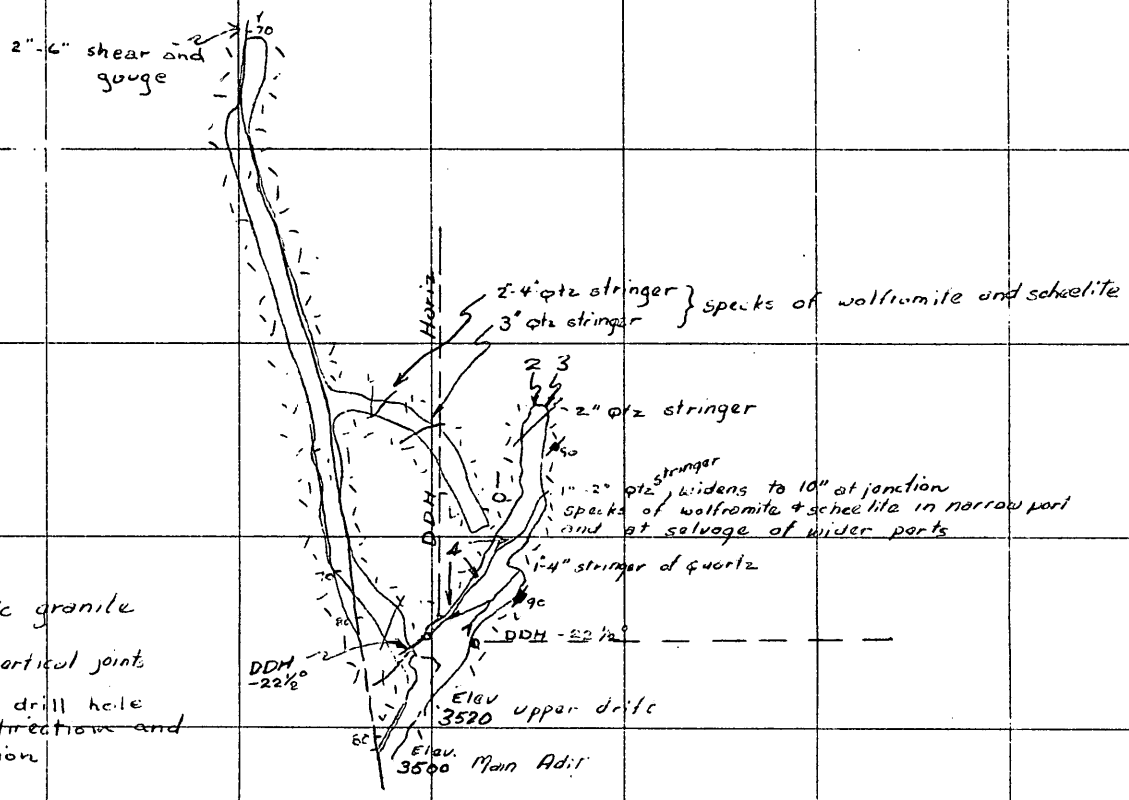

- Porphyritic granite
- 40 Strike of vertical joints
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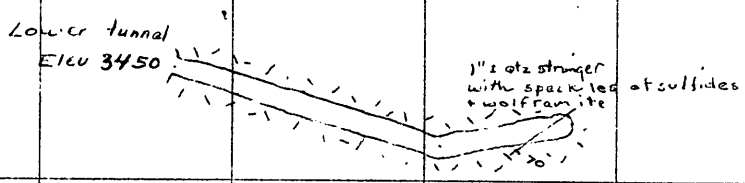

Geology of Underground Workings
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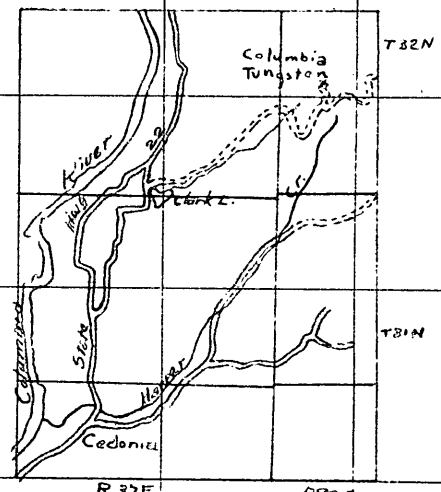
Stevens Co., Wash.
Scale 1" = 40'

A.B. Griggs 6-6-51



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DMA-520

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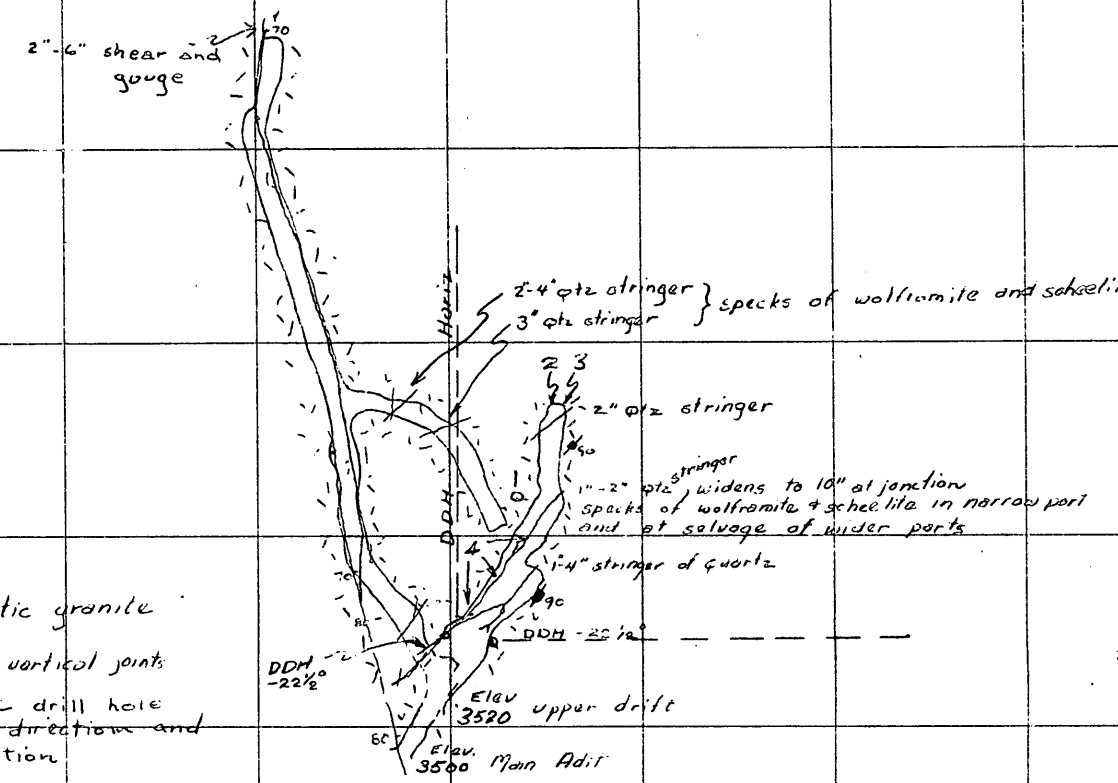

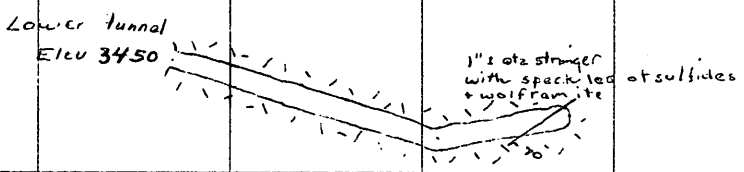

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Columbia Tungsten Claims
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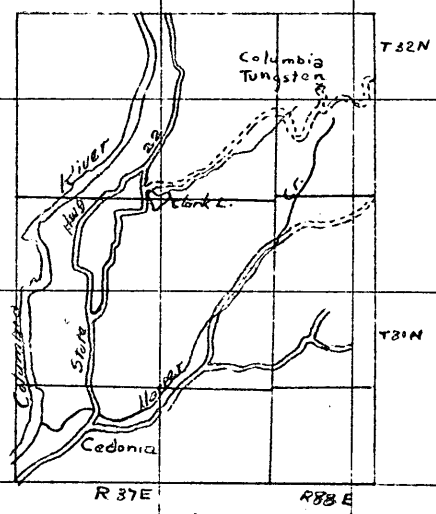
A.B. Griggs 6-6-51



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