224 New Customhouse
Denver 2, Colorado

November 27, 1951

Memorandum

To: Executive Secretary, Defense Minerals Administration

From: DMA Field Team, Region IV

Subject: Cancellation of Application, DMA Docket 2062, MacKenzie, Prime and Johnson, Last Chance Tungsten Lode Claim, Grand Island Mining District, Boulder County, Colorado

Messrs. Prime and Johnson are no longer interested in their application for an exploration loan of $12,709, and Mr. MacKenzie cannot handle it alone.

We attach a copy of a letter from Mr. MacKenzie requesting cancellation of the application.

J. H. EAST, JR.

J. H. East, Jr.

A. H. Koschmann

A. H. Koschmann

Attachment

WDM:ld

cc: DMA docket, chron.
Koschmann
Traver

allaman

Form 6-95

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

REFERENCE SLIP

DATE 11/23/51

REFERRED TO:

1. ~~Allsman~~ Pye
2. Mr Miller
3.
4.

FOR:

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

please prepare letter notifying field & W.D. DMA

REMARKS: Letter from W. W. MacKenzie requesting application, DMA 2062, be cancelled.

Check (X) before the items needing attention.

jhe
Initials of sender.

GPO 16—51162-1

2428 Bluff St
Boulder Colo.
Nov. 17-1951

REGIONAL DIRECTOR'S
OFFICE
REGION IV
NOV 23 1951
BUREAU OF MINES
DENVER, COLORADO

J. H. East, Jr.
Executive Officer
D.M.A. Field Team IV
Dear Sir

I regret not answering your letter sooner, however I did not know definitely that Mr Prime & Mr Johnson were no longer interested in the Last Chance lease.

At this time I cannot undertake to open the mine alone, so I think it advisable that you cancel my application, D.M.A docket no. 2062, for the loan.

I would also like to thank you for

your letter and your
interest in this matter.

Resp. yours
M. H. MacKenzie

26 12

November 1, 1951

Mr. M. W. MacKenzie
2426 Bluff Street
Boulder, Colorado

Dear Mr. MacKenzie:

It seems possible that you have not been completely informed regarding the Government's plan of financing Defense Minerals Administration exploration projects.

The applicant with whom a contract is completed, is expected to carry the cost of the project for one calendar month. At the end of this time he is required to submit a statement of allowable costs and a narrative report describing the progress. If the costs conform with the contract, the statement will be approved for reimbursement of the Government's share and you should receive the check before the end of the following month. Your operation will be inspected in order to check the statements of your narrative report and your accounts will be audited to provide a basis of certifying your statement of costs.

Enclosed is a copy of a press release dated May 14, 1951 and a blank form MP-200, Exploration Project Contract. If after you have studied this information, you do not wish to participate in the assistance program, please inform this office and request the cancellation of your application, DMA docket No. 2042. This action would permit us to clear our records and plan our work more efficiently.

Very truly yours,

J. H. Eastman

J. H. East, Jr.
Executive Officer
DMA Field Team, Region IV

Enclosure

WHK:bk

cc: DMA
Kennecott
Sub
Chron

W.H.K.

Mining Division
Date Rec'd.
OCT 30 1951
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
DENVER, COLORADO

Region IV

Building 20
Denver Federal Center
October 29, 1951

Memorandum

To: Chief, Mining Division, Region IV

From: Chief, Colorado Branch, Mining Division

Subject: DMA-2062, MacKenzie, Prime and Johnson (Tungsten), Boulder County, Colorado

Enclosed please find the original and three copies of a memorandum from Floyd Everett explaining what transpired when he contacted the applicants for the above loan on October 25, 1951.

Apparently they were under the impression the present Defense Minerals Administration exploration program operates on the same basis as the Reconstruction Finance Corporation plan during World War II when the funds were deposited immediately for the applicant's use.

Prime and Johnson were also applicants under DMA-1885, Hoosier Mine, which after approval was cancelled at their request; presumably due to their developing sufficient ore before funds were available to make Government assistance unnecessary.

Ogden Tweto prepared a report recommending the present loan and our investigation was being made to gather information for an engineering report.

Under the circumstances, I believe the applicants should be contacted by letter and a statement obtained from them formally requesting cancellation of this loan request, with reasons.

The brochure and a copy of Tweto's report is being returned to Mr. Koschmann with a copy of Everett's and this memorandum.

W. M. Traver, Jr.

W. M. Traver, Jr.

WMT/amh

Mining Division
Date Rec'd.
OCT 30 1951
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20
Denver Federal Center
October 29, 1951

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W. M. Traver, Jr.

W. M. Traver, Jr.

cc PTAllsman (2)
AHKoschmann
2062
DMA Chron.

WMT/amh

Mining Division
Date Rec'd.
OCT 30 1951
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20
Denver Federal Center
October 29, 1951

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AHKoschmann
2062
DMA Chron.

Mining Division
WMT/anh
Date Rec'd.
OCT 30 1951
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

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October 29, 1951

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2062
DMA Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
DENVER, COLORADO

Region IV

Building 20
Denver Federal Center
October 29, 1951

Memorandum

To: Chief, Colorado Branch, Mining Division

From: F. D. Everett

Subject: DMA-2062, MacKenzie, Prime, and Johnson (Tungsten), Boulder County, Colorado

George A. Prime and Ralph L. Johnson, partners with M. W. MacKenzie, were contacted at the Hoosier mine, which they have leased and are operating, on October 25, 1951, in regards to obtaining information concerning the subject loan application on the Last Chance mine, near Nederland, Colorado.

The two partners were informed that they would have to pay all expenses incurred in the project, and that the Government would reimburse them for 75 percent of the approved costs. Also, they would have to pay all costs for the first month and these costs would have to be approved before any payment could be received.

The two applicants declared that they could not and would not participate under these conditions. They expected the money, for any approved project, to be placed in the bank for their disposal in conducting the exploration work.

The wife of M. W. MacKenzie was contacted in his absence at her home in Boulder on the evening of the above date and given the information that her husband's partners did not care to participate any further in applying for the loan. Mrs. MacKenzie indicated her husband also could not participate under the conditions of the Government loan.

The application for a loan of $12,709.00 is not recommended on the basis of the applicants' refusal or inability to participate.

F. D. Everett
F. D. Everett
Mining Engineer

FDE/amh

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20
Denver Federal Center
October 29, 1951

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Mining Engineer

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AHKoschmann
DMA 2062
DMA Chron.

FDE/amh

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DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20
Denver Federal Center
October 29, 1951

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AHKoschmann
DMA 2062
DMA Chron.

FDE/amh

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20
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October 29, 1951

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F. D. Everett
F. D. Everett
Mining Engineer

cc PTAllsman (3)
AHKoschmann
DMA 2062
DMA Chron.

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : DMA Field Team, Region IV DATE: October 30, 1951

FROM : A. H. Koschmann

SUBJECT: DMA Docket 2062, MacKenzie, Prime and Johnson (Tungsten), Boulder County, Colorado

In accordance with the memos from W. M. Traver, Jr., and F. D. Everett of October 29 covering subject docket, I am returning herewith the subject brochure and geologic report by Tweto covering subject property. It is suggested that these be placed in the inactive files until applicants formally notify the Team regarding their wishes in the matter.

A. H. Koschmann

A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (2)

WMT/amh

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20
Denver Federal Center
October 29, 1951

Memorandum

To: Chief, Mining Division, Region IV

From: Chief, Colorado Branch, Mining Division

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cc PTAllsman (2)
AHKoschmann
2062
DMA Chron.

FDE/amh

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20
Denver Federal Center
October 29, 1951

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F. D. Everett
F. D. Everett
Mining Engineer

cc PTAllsman (3)
AHKoschmann
DMA 2062
DMA Chron.

Colorado Branch

Date Rec'd
OCT 19 1951
BUREAU OF MINES
Denver, Colorado

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

DIS. ENGR. LOWE
SWA
EXAMINATION
DIST. CLERK
PERSONNEL
FILES DOLY

224 New Customhouse
Denver 2, Colorado

September 17, 1951

Memorandum

To: A. H. Koschmann (with brochure)

W. M. Traver, Jr.

(Through Chief, Mining Divisin, Region IV)

From: DMA Field Team, Region IV

Subject: DMA Docket 2062, Mackenzie, Prime and Johnson (Tungsten)

Enclosed is the brochure of the above application for an exploration loan estimated to cost $12,709.00.

According to the application, the shaft must be unwatered before the exploration work can be performed.

A geologic study should be made and if the report is favorable, an engineering examination should be made. The engineering report should contain all the information necessary to complete a contract.

Please return the brochure with the final report.

Omit Engineering Examination and Contract at this juncture

J. H. East, Jr.

A. H. Koschmann

Enclosure

Form MF-103
(April 1951)

Colorado Branch
U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Date Rec'd
OCT 19 1951
BUREAU OF MINES
Denver, Colorado

DIST. ENGR.
EXAMINATION
PROJECTS
PERSONNEL
FILES

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. DMA - 2062

Date received 9-10-51

Participation

DEFENSE MINERALS ADMINISTRATION WASHINGTON D. C.
SEP 10 2 24 PM '51

M. W. MacKenzie
2428 Bluff St., Boulder, Colo.
George A. Prime
Nederland, Colo.
Ralph L. Johnson
Louisville, Colo.

Name and address of applicant

Date August 28, 1951

FILL IN THIS BLOCK

Date of application August 28, 1951

Estimated cost $12,709.00

Mineral or metal Tungsten

Percentage of Government participation 90% 75

Location of mine Grand Island Mining District
4 miles N.E. of Town of
Nederland, Colorado

Date of filing MF-100

DMA Docket Number, if available 2062

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? Partnership
*2. If a partnership, state names and addresses of partners. See attached sheet.
*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. 15 years
*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. --
7. If lessee, attach a copy of the lease and state if it is in good standing. copy attached

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. see attached sheet
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)?

*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. see attached sheet

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

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. Last Chance Lode Claims

*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. see attached sheet

*13. State source and quantity of water available for operations and its sufficiency at all seasons. see attached sheet 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. see attached sheet

15. State in detail how the ore could be shipped and how and where milled. see attached sheet

*16. History: see attached sheet

(*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. Average assay 7.28 WO_3

(*b*) Submit available maps and assay data. 2000 ton 3% ore

(*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. see attached sheet

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. not available

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: see attached sheet

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

(*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. none

(*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. none

(*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. see attached sheet

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.

Mac Kenzie Payne & Johnson (Name of company) By M. W. Mac Kenzie (Signature of authorized official)

August 28, 1951 (Date) Partner (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

2. M. W. MacKenzie, 2428 Bluff Street, Boulder, Colorado
George A. Prime, Nederland, Colorado
Ralph L. Johnson, Louisville, Colorado

8. $2500.00 loss in current exploration work.

10 a. 200 Ft. shaft
500 ft drifts
b. Last Chance Lode Mining Claim, Survey Lot No. 19204
Grand Island Mining District

12. 4 miles good dirt road, N. E. of Town of Nederland, Colorado, shipping point.

13. Electric power from the Public Service Co. of Colorado, at a cost of 50¢ per hour.

14. Shaft house, Head Frame Hoist, 400 cu. ft. Chicago Pneumatic Air Compressor , 75 H.P. Motor, 100 H .P. Starting Compensator.

15. Ore to be shipped to Hetzer Mines, Inc., Mill at Nederland, Colo.

16. Shaft 200 ft.
Drift 200 ft. East with stoping to surface on 100 ft. level
Drift 280 ft. West through low grade ore shoot with no stoping
Ore too low grade to be mined at a profit at the time work was done

b. Adjoining properties are Western Star, Cold Spring' Forest Home, production unknown by us.

21. Unwater shft to 100 ft. level, 30 days
Clean and timber 150 ft. of existing drift, 60 days
Drive drift 100 ft, 45 days
Drive cross cut 80 ft. to parallel vein showing ore on surface, 35 days

23 a. One miner @ $13.00 per shift
One mucker @ $13.00 per shift
One Hoistman @ $13.00 per shift
b. One foreman @ $400.00 per mo.

c. Repairs to existing facilities $150.00

e. Pump	$963.00
Electric cable.	150.00
Crossline Starter	100.00
3 inch pipe	100.00
2 " "	120.00
Drifting machine	
Column & Arm	
Hoses	850.00
Rails	200.00
2 tram cars	200.00
2 Mine buckets	160.00
Steel & bits	75.00
g. Rental on owned equipment	250.00

23. cont'd

h.	Small hand tools	$ 35.00
	Track spikes	20.00
	Fish plates	10.00
	Nails	32.00
	Pipe fittings	45.00
	muck sheets	40.00
i.	P ower installation	$200.00
	Oil & gas	45.00 per mo.
	powder, fuse & caps	600.00
	Timber	200.00

24. Project to be completed in six mo. after project is approved.

Colorado Bureau
Date Received
OCT 19 1951
Denver, Colorado

DIST. ENGR.
EXAMINATION
DIST. CLERK
PERSONNEL
FILES

LAST CHANCE TUNGSTEN MINE

BOULDER COUNTY, COLORADO

MACKENZIE, PRINE AND JOHNSON, APPLICANTS

IMA DOCKET 2062

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Ogden Tweto, U. S. G. S.
and
_____, U. S. B. M.

DMA DOCKET 2062
LAST CHANCE TUNGSTEN MINE
BOULDER COUNTY, COLORADO
MACKENZIE, PRIME, AND JOHNSON, APPLICANTS

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The Last Chance tungsten mine is on the east flank of Hurricane Hill, in the western part of the Boulder tungsten district, Colorado. The mine comprises an inclined shaft and 2 levels totaling about 1200 feet, plus numerous caved near-surface workings. The vein is in granite cut by aplite dikes. It is a "soft" vein, with intensely altered walls. The recorded output from it amounts to only 150 units WO_3, but considerable production may have been made from the surface workings.

The applicants have proposed a project to cost $12,709, including unwatering, cleaning and retimbering of the lower or 175-foot level southwest of the shaft (drift length is about 325 feet), drifting 100 feet on the Last Chance vein, and crosscutting 80 feet to a vein in the hanging wall. The chief object of this work is to reach some low-grade ore that, according to legend, was left behind when the Wolf Tongue Mining Company operated the mine in 1916. Considering the "soft" character of the vein and the small output made from rather extensive workings, the Last Chance vein itself is not very promising. However, 2 or 3 mines on similar veins in the near vicinity have produced considerable tungsten from veins in the walls of the soft and practically barren main veins. For this reason, crosscutting is desirable, and none has been done in the Last Chance mine.

It is recommended that an Exploration Loan of $_____ be granted to unwater, clean and retimber 300 feet of drift southwest of the

shaft on the 175-foot level, and drive 200 feet of crosscuts in the hanging and footwalls, preferably in or along aplite dikes.

LAST CHANCE TUNGSTEN MINE

BOULDER COUNTY, COLORADO

MACKENZIE, PRIME AND JOHNSON, APPLICANTS

DMA DOCKET 2062

Geologic Report

Ogden Tweto
U. S. Geological Survey
Denver, Colorado

LAST CHANCE TUNGSTEN MINE
BOULDER COUNTY, COLORADO
MACKENZIE, PRIME AND JOHNSON, APPLICANTS

INTRODUCTION

The Last Chance mine is on the east slope of Hurricane Hill, about 1500 feet west-northwest of the Cold Spring mine, in the western part of the Boulder tungsten district, Colorado. It is beside the poor and little-used road that runs northwestward down the gulch from the Forest Home - Cold Spring road to Lakewood. As shown in Figure 1, the workings are on the Last Chance, May Raymond, and Bertha claims, all with the patent number 19204, which are part of a large block of claims (former Wolf Tongue property) owned by Hetzer Mines, Inc. The applicants' lease appears to apply only to the Last Chance claim, but the applicants have been assured that they may have all the ground they need. Knowing the Hetzer Mines management, I am sure this is true.

The chief underground workings are shown in Figure 1. In addition to these, there are numerous pits, trenches, old shafts, and tunnels on the slope southwest of the Last Chance shaft. The Last Chance vein is a "soft" vein, i.e., the granite wallrocks are strongly altered and sluff badly, and most of the workings are caved or in poor condition. The mine has been unwatered several times since 1916, when most of the workings were driven, but only a small part of the mine has been accessible at any one time. The latest unwatering was done about a year ago by the present applicants. The shaft was repaired at that time, but the drifts, all of which are caved within 100 feet of the shaft, were not

rehabilitated, as a decision was made to work the Hoosier mine instead. The mine is under water at present.

The applicants have submitted a request for a loan of $12,709 (Government participation 75%, or $9531.75) to unwater the mine, clean and retimber a drift, drive 100 feet of new drift, and crosscut 80 feet to a vein in the hanging wall. The application specifies that this work would be done west of the shaft on the first or 100-foot level, but the applicants now want to work on the second (bottom) or 175-foot level instead. Data concerning the workings as given in the application are based on an old map which is evidently obsolete. The map I have of the Last Chance mine, made in 1929, shows the drifts west of the shaft on both levels to be about 100 feet longer than those shown on the map used by the applicants.

The project proposed by the applicants is motivated by an old tale that low-grade ore was encountered when the workings were driven (sometime between 1916 and 1929) and was not mined because at that time the Wolf Tongue Company was interested only in ore running more than 2 or 3% WO_3. There is doubtless some basis for the tale; the applicants are all life-long residents of the district, and their record of success in tungsten mining is a recommendation of their judgment in appraising such tales.

Geology

The Last Chance vein is one of the numerous northeast-trending veins in the highly productive area on the east flank of Hurricane Hill. It strikes about N. 50° E. and dips 60°-75° NW. The wallrocks are granite cut by a few dikes of aplite which trend about at right angles to the

vein. The granite is soft and intensely altered; the aplite, though altered, is hard and fresh-looking. The vein consists typically of a seam of white horn quartz 1 to 6 inches thick between walls of soft, bleached, argillized granite. Where ferberite is present it occurs in veinlets in or along the streak of horn quartz, or as a filling in brecciated quartz.

The distribution of ore on the vein is known only in part. An ore shoot about 60 feet long just northeast of the shaft was stoped from the 175-foot level to the surface, and another near the northeast end of the workings was stoped from the 175-foot level to some point between the 100-foot level and the surface. This latter shoot was only about 30 feet long on the 175-foot level but was evidently somewhat longer on the 100-foot level. There are conflicting reports concerning the area southwest of the shaft. One story has it that there are minor stopes on low-grade ore on the 100-foot level, and none on the 175-foot level. According to another, just the reverse is true--some low-grade ore and minor stopes on the 175-foot level, and none on the 100-foot level.

The recorded production from the mine is rather small. According to the records of the Wolf Tongue Company for the period 1907-1929, the mine produced only 35 tons of ore, averaging 4.21% WO_3, or 147 units WO_3. This output was made in 1916-19, 1925, and 1929. An unknown and possibly considerable amount was produced from the surface workings west of the shaft before 1907. Production since 1929 has been very small.

CONCLUSIONS

The production possibilities of the mine are hard to appraise. The Last Chance vein itself is not very promising, considering the small output made from the relatively extensive workings, and the "soft" character of

the vein. On the other hand, 2 or 3 good mines in the near vicinity have produced extensively from veins in the walls of large, soft, and essentially barren veins like the Last Chance. Thus crosscutting is a promising method of prospecting in the Last Chance mine, and none has been done thus far. Veins within 100 feet of the Last Chance vein have been worked at the surface on both sides of the Last Chance vein, but never at depth, and other veins doubtless exist in this heavily covered area. Some low-grade ore may be present on the Last Chance vein, as the applicants hope, but it is likely that any considerable output made in the future will come from veins in the walls of the main vein. Crosscutting seems preferable to drifting.

Accordingly, instead of drifting 100 feet on the Last Chance vein, I suggest that the footage be used for crosscutting. An 80-foot crosscut into the hanging wall is proposed in the application. I suggest that this be extended to 100 feet and that a 100-foot crosscut be driven in the footwall also. Both crosscuts should be driven in or along aplite dikes, as ore is most likely to be localized where veins cross such dikes.

Unwatering, re-opening the drift, and crosscutting 200 feet is not likely to require $12,700 as estimated in the application. The mine is equipped with headframe, hoist house, hoist, and compressor. The shaft is in good shape, and unwatering should not cost much. The drift, although blocked, apparently is not badly caved, as Barney Prime, one of the applicants, was able to get back into it more than 100 feet by climbing over caves a year ago.

The total cost of the project outlined above, including unwatering, re-opening the drift, and crosscutting, is estimated at $_____ in the accompanying engineering report.

RECOMMENDATIONS

An Exploration Loan of $_____ (Government participation 75%, or $_____) is recommended for approval. This would be used to unwater, clean, and retimber the drift southwest of the shaft on the 175-foot level, and drive 200 feet of crosscuts. Possible locations of crosscuts are shown approximately in Figure 1, but final decision should be deferred until the drift is re-opened and can be examined.

224 New Customhouse
Denver 2, Colorado

September 17, 1951

Memorandum

To: A. H. Koschmann (with brochure)

W. M. Traver, Jr.

(Through Chief, Mining Division, Region IV)

From: DMA Field Team, Region IV

Subject: DMA Docket 2062, Mackenzie, Prime and Johnson (Tungsten)

Enclosed is the brochure of the above application for an exploration loan estimated to cost $12,709.00.

According to the application, the shaft must be unwatered before the exploration work can be performed.

A geologic study should be made and if the report is favorable, an engineering examination should be made. The engineering report should contain all the information necessary to complete a contract.

Please return the brochure with the final report.

J. H. East, Jr.

A. H. Koschmann

Enclosure

JFS:ld

cc: DMA
Koschmann

221 New Customhouse
Denver 2, Colorado

September 7, 1951

Memorandum

To: Defense Minerals Administration, Attention: Code 210

From: Executive Officer, DMA Field Team, Region IV

Subject: Rankings for Exploration Assistance

Enclosed herewith in duplicate are DMA Form 3a and Form MP-103 pertaining to the following six applications for exploration loans:

✓ Nacimiento, Arno and Minnie, Lost Chance Tungsten, Boulder County, Colorado

Marfak Metals Trust, Royal Arch Copper, Jefferson and Boulder Counties, Colorado

Morris G. Hicks, Jane Lake and Hillis Tungsten, Boulder County, Colorado

Paymaster Mine Trust, Paymaster Tungsten, Boulder County, Colorado

Tungsten Trust Activities, Tip Top Tungsten, Boulder County, Colorado

Arthur H. Swart, Pride of the Mesa and Queen Mountain, Lead-Silver and Copper, San Juan County, Colorado

A. M. Rust, Jr.

Enclosures

MPM:jd

cc: DMA Code 210
" Denver
" Ogden
Headquarters

DMA Form 3a

DEFENSE MINERALS ADMINISTRATION

CONTROLLED DOCUMENT
Abstract

I. Check One:

1 [ ] 2 [ ] 3 [x] 4 [ ] 5 [ ] 6 [ ]

II. Fill in each item:

1. DMA-2012 2. 9/12/51 2a

3. Partnership - M. W. Mackensie, 2428 Bluff St., Boulder, Colo.
George A. Prime, Nederland, Colo., Ralph J. Johnson, Louisville, Colo.
(Code)

4. Last Chance Lode Claim #19204

5. Country U.S.A. State Colorado County Boulder
(Code) (Code)

6. Tungsten

7. $ 12,709.00

8. $ $ 75

9. Est. Ann. Increase - Unit of Measure -

10. $

111

III. Check one:

1 [ ] 2 [ ] 3 [ ] 4 [x] By Field Team, Region IV

Initials of person preparing sheet W.D.M.

Date sheet prepared 8/30/51

WDM:oj

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. [redacted]
Approval expires [redacted]

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. DMA-202

Date received 9/10/51

Participation 90%

M. W. MacKenzie
2428 Bluff St., Boulder, Colo.
George A. Prime
Nederland, Colo.
Ralph L. Johnson
Louisville, Colo.

Name and address of applicant

Date August 28, 1951

FILL IN THIS BLOCK

Date of application August 28, 1951

Estimated cost $12,709.00

Mineral or metal Tungsten

Percentage of Government participation 90%

Location of mine Grand Island Mining District
4 miles N.E. of Town of
Nederland, Colorado

Date of filing MF-100

DMA Docket Number, if available

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? Partnership

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

*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. 15 years

*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. --

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

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. see attached shee

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)?

*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. see attached sheet

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

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. Last Chance Lode Claims

*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. see attached sheet

*13. State source and quantity of water available for operations and its sufficiency at all seasons. see attached sheet 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. see attached sheet

15. State in detail how the ore could be shipped and how and where milled. see attached sheet

*16. History: see attached sheet

(*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. Average assay 7.28 WO3

(*b*) Submit available maps and assay data. 2000 ton 3% ore

(*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. see attached sheet

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. not available

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: see attached sheet

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

(*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. none

(*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. none

(*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. see attached sheet

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.

MacKenzie, Prime & Johnson — (Name of company)

By M. H. MacKenzie — (Signature of authorized official)

August 23, 1951 — (Date)

Partner — (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

P. M. . MacKenzie, 2423 Bluff Street, Boulder, Colorado
George A. Primo, Nederland, Colorado
Ralph L. Johnson, Louisville, Colorado

8. $2500.00 loss in current exploration work.

10 a. 200 Ft. shaft
500 ft drifts
b. Last Chance Lode Mining Claim, Survey Lot No. 19204
Grand Island Mining District

12. 4 miles good dirt road, N. E. of Town of Nederland, Colorado, shipping point.

13. Electric power from the Public Service Co. of Colorado, at a cost of 50¢ per hour.

14. Shaft house, Head frame Hoist, 400 cu. ft. Chicago Pneumatic Air Compressor , 75 H.P. Motor, 100 H .P. Starting Compensator.

15. Ore to be shipped to Ketner Mines, Inc., Mill at Nederland, Colo.

16. Shaft 200 ft.
Drift 200 ft. East with stoping to surface on 100 ft. level
Drift 250 ft. West through low grade ore shoot with no stoping
Ore too low grade to be mined at a profit at the time work was done

b. Adjoining properties are Western Star, Gold Spring' Forest Home, production unknown by us.

21. Unwater shft to 100 ft. level, 30 days
Clean and timber 150 ft. of existing drift, 60 days
Drive drift 100 ft, 45 days
Drive cross cut 80 ft. to parallel vein showing ore on surface, 35 days

23 a. One miner @ $13.00 per shift
One mucker @ $13.00 per shift
One Hoistman @ $13.00 per shift
b. One foreman $400.00 per mo.

c. Repairs to existing facilities $150.00

e. Pump	$963.00
Electric cable.	150.00
Crossline Starter	100.00
3 inch pipe	100.00
2 " "	130.00
Drifting machine	
Column & Arm	
Hoses	850.00
Rails	200.00
2 tram cars	200.00
2 Mine buckets	160.00
Steel & bits	75.00
g. Rental on owned equipment	250.00

23. cont'd

h.	Small hand tools	35.00
	Track spikes	20.00
	Fish plates	10.00
	Nails	32.00
	Pipe fittings	45.00
	muck sheets	40.00
i.	Power installation	200.00
	Oil & gas	45.00 per mo.
	powder, fuse & caps	600.00
	Timber	200.00

24. Project to be completed in six mo. after project is approved.

L E A S E.

THIS INDENTURE, Made and entered into this 25th day of August, 1951, between HETZER MINES, INC., a corporation, hereinafter called the Lessor, and M. W. MacKenzie, George Prime and Ralph Johnson, hereinafter called the Lessee,

WITNESSETH: That the Lessor, in consideration of the covenants and agreements of the Lessee hereinafter expressed to be kept and performed by the Lessee, and upon and subject to the conditions hereinafter provided, has leased and demised, and by these presents does lease and demise unto the Lessee, the following described mining property or premises, to-wit:

The Last Chance Lode Mining Clain Survey Lot No. 19204, Grand Island Mining District, Boulder County, Colorado, except the dumps situated on said claim

TO HAVE AND TO HOLD The said demised premises, only however to the extent necessary for the purpose of mining the same for tungsten ore and for no other purpose, for a term of two years from the date hereof.

IN CONSIDERATION Of this lease, the Lessee covenants and agrees as follows, to-wit:

1. To work the said premises in thorough mine-fashion to the end of the safe development and preservation of the same as a workable mine, at all times extracting as much ore therefrom as is possible consistent with safe and prudent mining; and in this connection it is agreed and understood that the Lessor may at its election require the Lessee to produce ore instead of doing development work.

2. To work the demised premises continuously from October 1st 1951, performing at least 40 shifts of work therein underground during each calendar month during the time this lease shall remain in force and effect; any excess labor performed during any calendar month shall not apply on the work required hereunder in any preceding or following calendar month. The word "shift" is taken and accepted to mean the labor of one man for one day of at least 8 hours.

3. To make all shafts and inclines eight (8) feet long by four (4) feet wide in the clear, with bucket ways three and one-half (3-½) by four (4) feet in the clear, and all drifts seven (7) feet high by four (4) feet wide in the clear, provided that existing shafts, drifts and inclines shall, unless otherwise directed by the Lessor, be continued with their present dimensions. The Lessor reserves the right to change the dimensions of any workings as and whenever in the judgment of the Mining Superintendent of the Lessor the same may be necessary or expedient.

4. To do no underhand stoping, whether for the purpose of taking out ore or for any other purpose whatsoever.

5. To neither mine, extract nor remove the ground to a point nearer than four (4) feet to each side of any working shaft, and always to leave at least four (4) feet of ground, in its original condition, to support each such shaft. To leave more than four (4) feet of ground to support each such shaft if the Mining Superintendent of the Lessor shall so direct and to crib or riprap any shaft at the Lessee's expense, if the said Mining Superintendent shall so request the Lessee.

6. To allow the officers, agents and representatives of the Lessor at all times to enter upon and into the said premises and all parts thereof for the purpose of inspection and sampling, and to make any surveys they may desire, and to render them all the assistance in the power of the Lessee in so doing.

7. To keep and maintain the drifts, shafts, tunnels and other workings in the said premises thoroughly drained and clear of loose rock and rubbish, and in a safe and secure condition, except as prevented by extraordinary mining casualty, and to maintain at all times and leave the floors of all drifts and workings in good, even and unobstructed condition; to store no waste underground except with the consent in writing of and under the direction of the Mining Superintendent of the Lessor.

8. To keep posted in conspicuous places on the surface of the said premises all notices which may be furnished by the Lessor for posting thereon.

9. To not assign this lease or any interest therein, nor to sublet the said premises or any part thereof; and to not assign or transfer to anyone any interest in the sums payable by the Lessor, or any other, to the Lessee for ores produced from the demised premises, without the written consent of the Lessor first had and obtained.

10. To pay monthly in advance to the Public Service Company of Colorado its charges for electric power required or to be furnished to the Lessee at the said premises, together with all proper costs of making such power available to the Lessee.

11. The Lessee hereby agrees and promises that on or before the 10th day of each calendar month after the date hereof, the Lessee will make, sign and deliver to the Lessor a written report, in duplicate, of the payroll for all operations under this agreement of lease upon the premises hereinabove described, for the preceding calendar month, on such forms as the Lessor and/or the State Compensation Insurance Fund shall direct from time to time; and the Lessee agrees and promises that each such report shall be in sufficient detail so that the actual payroll may be ascertained for all operations under lease upon the demised premises during the preceding calendar month, including the Lessee's own time at Lessee's actual wages, but in any event at not less than the minimum rate of pay fixed from time to time by the State Compensation Insurance Fund or the Industrial Commission of Colorado for a Lessee, and including the payroll of his sublessees and employees, if any, and including the payroll on account of contractors and subcontractors and their employees, if any, so that from such report there may be ascertained the amount of premium payable by the Lessor to the State Compensation Insurance Fund or other insurance carrier for compensation insurance covering the Lessee, his employees and sublessees, if any, and all contractors and subcontractors, if any, and the employees thereof, for operations on the said premises under this lease.

The Lessee agrees hereby to pay to the Lessor the cost of such compensation insurance as may be carried by the Lessor on account of or for the Lessee and Lessee's sublessees and employees, if any, and on account of each contractor with the Lessee and subcontractor, if any, and the employees of each thereof, if any, because of any operations on the demised premises under this lease; and the Lessee agrees to pay the cost of such insurance to the Lessor in cash monthly installments payable on or before the 20th day of each calendar month during the life of this lease for the operations of the preceding calendar month; and the Lessee agrees further that the Lessor, at its option, may withhold and deduct each such monthly installment, and any unpaid monthly installments, if any, from sums otherwise payable to the Lessee upon ore settlements from operations under this lease, or from any other money due or owing or to become due in any fashion to the Lessee from the Lessor.

12. The Lessee agrees to pay to the Lessor and the Lessor reserves a royalty of fifteen (15) percent of the net proceeds from the sale of any ores produced by the Lessee. The "net proceeds" is agreed to be the net sale price of said ores less the cost of hauling the same to the Lessor's mill at Nederland, Colorado.

IT IS MUTUALLY AGREED By and between the Lessor and Lessee as follows:

(a) The Lessor agrees that as long as it has a market for ore, it will maintain what it considers a fair schedule of price for tungsten ore produced from properties owned or leased by it. The Lessor shall have the right to purchase and the Lessee agrees to sell to the Lessor all ore produced by the Lessee from the leased premises, provided said schedule of prices maintained by the Lessor is at least equal to the price which may be offered the Lessee by any other party. In the event the Lessee is able to sell said ore at a net price higher than offered by the Lessor, the Lessee shall have the right to sell said ore to the buyer offering a higher net price. In the event any of said ore is sold to any one other than the Lessor, said ore shall be shipped in the names of the Lessor and the Lessee, and the royalty reserved by the Lessor shall be paid directly to the Lessor. It is further agreed that no hauling charges in excess of hauling said ore to Lessor's mill shall be deducted in the event said ore is sold to any one other than the Lessor.

(b) It is further mutually agreed and understood that in the event the Lessee delivers to the Lessor shipments or lots of ore of a value less than $100.00 per lot, that the Lessee shall pay to the Lessor the cost of milling such ore and the cost of sampling the same.

(c) It is further mutually understood and agreed that in the event the Lessee fails to pay the royalty herein reserved, or fails to pay compensation insurance premiums, the Lessor shall have the right to terminate this lease immediately and without notice to the Lessee. In the event of the violation of any other term, provision or condition of this lease by the Lessee, the Lessor shall have the right to terminate this lease upon giving thirty (30) days written notice to the Lessee. In the event the Lessee corrects any such defaults within thirty (30) days, said lease shall not be terminated. In the event any default shall not be corrected at the end of the said thirty-day period, then said lease shall be terminated as of the end of said thirty-day period. Said notice shall be given in writing, addressed to the Lessee at Nederland, Colorado.

(d) The title to any ores broken or mined on said leased premises at the termination of this lease, shall be the property of the Lessor, and it shall not be liable for the payment to the Lessee for the same before any costs or expenses of breaking or mining said ore.

IN WITNESS WHEREOF, The Lessor has caused its name to be hereunto subscribed by its President and attested by its Secretary and its seal affixed

hereunto, and the Lessee has hereunto set their hands and seals the day and year first above written.

METZER MINES, INC.

By Elmer Metzer
President.

ATTEST:

Dudley D. Lutkemeyer
Secretary.

George Prime

Ralph Johnson

H. H. MacKinzie

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. DMA-2002

Date received 9/10/51

Participation

H. G. MacKenzie
2428 Bluff St., Boulder, Colo.
George A. Prime
Nederland, Colo.
Ralph L. Johnson
Louisville, Colo.

Name and address of applicant

Date August 28, 1951

FILL IN THIS BLOCK

Date of application August 28, 1951

Estimated cost $12,709.00

Mineral or metal Tungsten

Percentage of Government participation 90%

Location of mine Grand Island Mining District
4 miles N.E. of Town of
Nederland, Colorado

Date of filing MF-100

DMA Docket Number, if available

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? Partnership

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

*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. 15 years

*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. --

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

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. see attached she

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

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)?

*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. see attached sheet

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

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. Last Chance Lode Claims

*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. see attached sheet

*13. State source and quantity of water available for operations and its sufficiency at all seasons. see attached sheet 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. see attached sheet

15. State in detail how the ore could be shipped and how and where milled. see attached sheet

*16. History: see attached sheet

(*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. Average assay 7.28 WO3

(*b*) Submit available maps and assay data. 2000 ton 3% ore

(*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. see attached sheet

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. not available

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: see attached sheet

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

(*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. none

(*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. none

(*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. see attached sheet

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.

MacKenzie Prime & Johnson By M. W. MacKenzie
(Name of company) (Signature of authorized official)

August 23, 1961 Partner
(Date) (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

2. M. T. MacKenzie, 2423 Bluff Street, Boulder, Colorado
George A. Prime, Nederland, Colorado
Ralph L. Johnson, Louisville, Colorado

8. $2500.00 loss in current exploration work.

10 a. 230 Ft. shaft
500 ft drifts
b. Last Chance Lode Mining Claim, Survey Lot No. 19204
Grand Island Mining District

12. 4 miles good dirt road, N. E. of Town of Nederland, Colorado, shipping point.

13. Electric power from the Public Service Co. of Colorado, at a cost of 50¢ per hour.

14. Shaft house, Head Frame Hoist, 400 cu. ft. Chicago Pneumatic Air Compressor, 75 H.P. Motor, 100 H.P. Starting Compensator.

15. Ore to be shipped to Metzer Mines, Inc., Mill at Nederland, Colo.

16. Shaft 200 ft.
Drift 200 ft. East with stoping to surface on 100 ft. level
Drift 230 ft. West through low grade ore shoot with no stoping
Ore too low grade to be mined at a profit at the time work was done

b. Adjoining properties are Western Star, Gold Spring' Forest Home, production unknown by us.

21. Unwater shft to 100 ft. level, 30 days
Clean and timber 150 ft. of existing drift, 60 days
Drive drift 100 ft, 45 days
Drive cross cut 80 ft. to parallel vein showing ore on surface, 35 days

23 a. One miner $13.00 per shift
One mucker $13.00 per shift
One Hoistman 13.00 per shift
b. One foreman 400. 0 per mo.

c. Repairs to existing facilities $150.00

e. Pump $963.00
Electric cable. 150.00
Crossline Starter 100. 0
3 inch pipe 100.00
2 " " 120.00
Drifting machine
Column & Arm
Hoses 850.00
Rails 200.00
2 tram cars 200.00
2 Mine buckets 160.00
Steel & bits 75.00

g. Rental on owned equipment 250.00

23. cont'd

h.	Small hand tools	35.00
	Track spikes	20.00
	Fish plates	10.00
	Nails	32.00
	Pipe fittings	45.00
	muck sheets	40.00
i.	Power installation	220.00
	Oil & gas	45.00 per mo.
	powder, fuse & caps	600.00
	Timber	200.00

24. Project to be completed in six mo. after project is approved.

REGIONAL DIRECTOR'S
OFFICE
REGION IV
AUG 30 1951
BUREAU OF MINES
DENVER, COLORADO