DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. DMFA-2795

DO NOT DETACH THIS SLIP

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EXPLORATION ASSISTANCE

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

Routing Slip

Reg. II

Copies to USGS, USBM, ONE COPY RETAINED IN/

To:	Code 500 Rm. 2616	Date 12/1/52
To:	Open Com	Date 1-28-53
To:	Open Com	Date 2-27-53
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DO NOT DETACH

CONTROLLED DOCUMENT

FILE COPY
SURNAME:

500

Keating

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

MAY 19 1953

Mr. . D. Baker
Plainview,
Texas

Re: Docket No. [illegible] 2795 (Lead-Zinc)
Leland G. Heller
Warm Springs Claim
Valley County, Idaho

Dear Mr. Baker:

This will acknowledge your letter of May 6, 1953, in which you make inquiry regarding information requested in your letter of February 26, 1953.

As you have been informed, the subject project was denied in a letter dated January 29, 1953, addressed to Mr. Heller, Boise, Idaho. On February 27, 1953, a letter was sent Mr. Heller advising him that the project had been reconsidered and that the supplemental information submitted was not sufficiently favorable to alter the conclusion that the project be denied as expressed in the letter of January 29, 1953.

The writer assumed that you were being kept informed of these communications by Mr. Heller and therefore it appeared to be unnecessary to duplicate the correspondence.

We regret that you did not receive the information you requested and that the project did not conform to the requirements necessary for favorable action.

Sincerely yours,

/S/

A. G. Keating
Base Metals Division

AGKeating/hmj
(5/19/53)
CC to: Docket [illegible]
Adm. R. File
Op. Committee
Base Metals Division
Mr. Kinkel
Mr. Bishop
Mr. Keating
Chron.

~~Grossvold~~
Keating
Betty

1201 Quincy Ave.
Plainview, Texas
May 4, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 6 1953

Dear Mr. Keating:

I am sending you a copy of the letter I sent you on Feb. 26, 1953. As of yet I have not had an answer to it. I would appreciate an answer to it as soon as possible as I am planning on going to Spokane shortly.

Yours truly,

W. D. Baker

Leland I. Heller
~~Chester Black~~
Dmc A-2795
(denied)

February 26, 1953

Defense Minerals Exploration Administration
RECEIVED
MAY 6 1953

Defense Minerals Exploration Administration
Washington, D. C.

Att: Mr. Keating

Dear Mr. Keating:

I want to thank you for your interest and time spent with us in our discussion of the Warm Spring Mine. I don't mean this as a way of flattery but am sincere in my gratitude. However, I still don't quite understand why the Spokane office feels as they do about our project. All the exploration done in the past two years points more and more to possibilities of there being fairly large deposits of lead and zinc on that claim.

We are planning on doing some more diamond drilling as you suggested. I hope I did not receive the wrong impression from you in thinking that the DMEA will assist us if we produce two more core samples from two seperate locations that contains at least a 3 or 4% lead or zinc content. That is of course if they come from a deeper depth than our previous samples and also if the law still provides for government assistance in lead or zinc exploration.

Would it be possible for me to have a letter from you to take to Spokane stating that you think it feasible for the field team there to advise us on the next drilling and also send a field engineere down to the location during the actual drilling?

Sincerely yours,

W. D. Baker
Administrative Assistant

FILE COPY
SURNAME:

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

500

Mr. Leland D. Heller
Route No. 3
Boise, Idaho

Re: Docket No. DMA 2795 (Lead-Zinc)
Warm Springs Claim
Valley County, Idaho

Dear Mr. Heller:

This will acknowledge receipt of your letter dated February 4, 1953 addressed to the Bureau of Mines, Spokane, Washington, which has been forwarded to this office for further consideration.

We regret to inform you that the supplemental information furnished in your letter is not sufficiently favorable to enable us to alter the conclusion that your project be denied as expressed to you in our letter of January 29, 1953.

Sincerely yours,

(signed) FRANK E. JOHNSON

ACTING Administrator

AGKeating/hmj
(written 2-24-53)
CC to: Docket
Admr. Reading File
Op. Committee
Base Metals Division
Mr. Kinkel
Mr. Alt
Mr. Bishop
Region II (2)

IN REPLY REFER TO:

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

February 25, 1953

Re: DMEA-2795
Leland S. Heller
Warm Springs Claim
Valley County, Idaho
Lead-zinc

Memorandum

To: Mr. George Keating

From: A. R. Kinkel, Jr.

Subject: Concurrence with field team's recommendation

I agree with the field team that Heller's letter of February 4, 1953, presents no new data that would change our previous opinion that the application should be denied.

A R Kinkel Jr.

A. R. Kinkel, Jr.
Geologist

February 25, 1953

Re: DMEA-2795
Leland S. Heller
Warm Springs Claim
Valley County, Idaho
Lead-zinc

Memorandum

To: Mr. George Keating

From: A. R. Kinkel, Jr.

Subject: Concurrence with field team's recommendation

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A. R. Kinkel, Jr.
Geologist

February 25, 1953

Re: DMEA-2795
Leland S. Heller
Warm Springs Claim
Valley County, Idaho
Lead-zinc

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From: A. R. Kinkel, Jr.

Subject: Concurrence with field team's recommendation

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A. R. Kinkel, Jr.
Geologist

U.S. AIR FORCE CONTRACT PRIMARY FLYING SCHOOL

Hawthorne
SCHOOL OF AERONAUTICS
SPENCE AIR BASE
MOULTRIE, GEORGIA

February 20, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 24 1953

U. S. Department of The Interior
Defense Minerals Exploration Administration

Att: Mr. A. G. Keating

Dear Mr. Keating:

Soon after our phone conversation concerning the Warm Springs Claim; Docket No. 2795, I received the acknowledgement of additional information, dated February 10, 1953, on the above mine from Mr. A. E. Weissenborn. This was forwarded to me by Mr. Heller. If I had received this acknowledgement before I placed my call to you I would have known that you people could not have had time to process our application by this time.

We certainly hope the DMEA can reach a favorable decision to assist us in further exploration of the Warm Spring Mine.

The diamond drilling we done last summer was with firm belief that, should ore be encountered at favorable locations (either drill hole) the DMEA would assist in development. Lead and zinc were both on the critical list at that time.

Sincerely,

Doug Baker

Doug Baker
Administrative Assistant

No reply necessary as Mr. Baker was in Base Metals on 2/24/53 to discuss this matter

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~

Spokane, Washington
February 11, 1953

Gnauwald
~~Alt~~
Betty

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
FEB 20 1953

MEMORANDUM

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

From: DMEA Field Team, Region II

Subject: Docket No. DMEA 2795 (lead-zinc)
Leland S. Heller
Warm Springs Claim
Valley County, Idaho

Enclosed are four ozalid copies of a letter from Leland S. Heller containing additional data concerning the subject application.

In a telephone conversation with a representative of the Field Team, Mr. Heller stated that he was submitting this information on the advice of his associates in Arkansas who had been informed by your office that the application needed clarification. It is evident that the letter was written before he received Mr. Mittendorf's letter of January 29, 1952, stating that the application had been denied.

The attached letter adds very little to information already available. For reasons indicated in our letter of November 21, 1952, we again recommend that the application be given no further consideration.

By Field Team, Region II

A E Weissenborn

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

further consideration unnecessary — per Alt & Gnauwald

M E Volin

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

Enclosure

Boise, Idaho
Route #3
February 4, 1953

Bureau of Mines
1201 North Division Street
Spokane, Washington

Attn: Tom Howard

Gentlemen:

Enclosed herewith are two additional copies of the supplement to DMEA Form No. MF-103, the complete file of which is now in Washington, D. C., Base Metals Division, U. S. Bureau of Mines, Docket No. DMEA 2795.

My associates in Bentonville, Arkansas, have contacted your office in Washington, D. C., and they request that additional information be submitted through your office to further clarify our application. The following is factual data which I should have incorporated in my original application.

1. The horizontal distance on the surface from the vein outcropping to diamond drill hole No. 1 is 41 feet and to drill hole No. 2, 46 feet.

2. Ore of seemingly commercial value was drilled through in both holes. In searching my records I find that I did not have assays made on the drillings from hole No. 1. The vein at hole No. 1 was cut through at a time when I was away from the property. Core was not obtained of the ore though the water, according to the driller, was black, similar to the water when drilling through the ore at hole No. 2. In examining the small particles of quartz recovered from drilling at hole No. 1, one can easily discern considerable quantities of zinc and lead.

3. In shaft No. 4 which was sunk to a depth of 78 feet, igneous or dike rock was not encountered until a depth of 40 feet was reached and at that time we presumed this to be the hanging wall and did not explore above its contact, which we presumed to be the hanging wall. However, in both diamond drill holes drilled last fall, the ore lay between the hanging wall granite and the igneous rock. After this discovery I examined the formation at the surface of shaft No. 4 and discovered that lead and zinc can be plainly discerned with the naked eye from material taken above the collar and above the quartz outcropping at that point. This discovery definitely establishes a continuity of formation

Bureau of Mines
Attn: Tom Howard
February 4, 1953

ie., that the ore does lie between the hanging wall granite and the igneous rock on the foot wall and has not penetrated to the surface except at shaft No. 1. For this reason I have recommended that deeper holes be drilled and firmly believe that ore bodies will be discovered far in excess of what one might expect from the surface showings.

4. Exploration to date shows conclusive proof that the fault or vein line extends over 1000 feet in length, as all trenching to bedrock showed the vein or fault line in place and the same surface materials can be easily traced for a distance of over 300 feet north of the present trenching.

5. We respectfully urge your recommending the approval of Step No. 1, which calls for a total estimated expenditure of $3,917.50, fifty percent of which would be advanced by DMEA. My associates and our advisors are firmly of the opinion that even though Step No. 1 calls for a very small expenditure it is, in fact, of great importance in that it will prove conclusively the merits of further exploration.

It will be possible this spring to start the work probably during the middle of May. We would greatly appreciate your earliest consideration in order that arrangements may be made to start the work as soon as road conditions will permit.

Very truly yours,

L. S. Heller

LSH:el

Encls.

AIR MAIL

2/18/53

Letter of Denial sent to Mr. Keller Jan. 29, 1953. Do not think that it is necessary to further consider this Application.

J. W. Coe

OK

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D. C.~~
Spokane, Washington
February 11, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration

MEMORANDUM

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

From: DMEA Field Team, Region II

Subject: Docket No. DMEA 2795 (lead-zinc)
Leland S. Heller
Warm Springs Claim
Valley County, Idaho

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The attached letter adds very little to information already available. For reasons indicated in our letter of November 21, 1952, we again recommend that the application be given no further consideration.

By Field Team, Region II

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

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

Enclosure

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

Boise, Idaho
Route #3
February 4, 1953

Bureau of Mines
1201 North Division Street
Spokane, Washington

Attn: Tom Howard

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Bureau of Mines
Attn: Tom Howard
February 4, 1953

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Very truly yours,

L. S. Heller

LSH:el

Encls.

AIR MAIL

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

Spokane, Washington
February 10, 1953

Mr. Leland S. Heller
Route No. 3
Boise, Idaho

Subject: Docket No. DMEA 2795 (lead-zinc)
Warm Springs claim
Application for exploration assistance

Dear Mr. Heller:

This will acknowledge receipt of your letter of February 4, 1952, giving additional information on the subject application.

Copies of your letter are being forwarded to Washington, D. C. for the consideration of that office of Defense Minerals Exploration Administration.

By Field Team, Region II

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

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

cc: DMEA, Wash. (2)
USGS (2)
DMEA
D/F

FILE COPY
SURNAME:

500

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

Keating
Kinkel
Hedges
Selfridge

JAN 29 1953

Mr. Leland S. Heller
Route #3
Boise, Idaho

Re: Docket No. DMRA-2795 (Lead-Zinc)
Leland S. Heller
Warm Springs Claim
Valley County, Idaho

Dear Mr. Heller:

The Government has made a careful study of the data submitted in your application together with all the geological and field reports available. We have been unable to marshall sufficient evidence to permit us to reach a conclusion that the program of exploration work you propose might be successful. Under the circumstances, it has become necessary to advise you that your application for exploration project assistance is denied.

We wish to express our appreciation of the opportunity you have given us to consider your defense exploration project, and it is with regret that we have to inform you of an unfavorable decision regarding your request.

Sincerely yours,

C. O. Mittenderf (fw)

Administrator

JWAlt/AGKeating/bjl

1-29-53

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals Div.
Mr. Alt
Mr. Bishop
Mr. Kinkel
Region II (2)
Chron.

FILE COPY
500
SURNAME:

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

Keating
J.W. Alt
Kinkel
Hedges
Stefanoff

JAN 29 1953

Mr. Olin F. Knight
Box 208
Bentonville, Arkansas

Re: Docket No. DMA-2795 (Lead-Zinc)
Leland S. Heller
Valley County, Idaho

Dear Mr. Knight:

This in reply to your letter of January 23, 1953, in regard to the application of Leland S. Heller for Government Assistance to further explore his property.

A detailed study has been made of all data submitted by Mr. Heller, and also all geological and field data presently available.

As a result of this study this office has concluded that this application be denied additional Government exploration assistance. We have notified Mr. Heller of this action.

Sincerely yours,

A. O. Mittendorf (fw)

Administrator

B.N.
1-29-53

JWAlt/hmj
1-27-53
CC to: Docket
Adm. Reading File
Operating Committee
Base Metals
Mr. Alt
Mr. Kinkel
Mr. Bishop
Region III (2)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 2 5 1953

abt
Keating
Betty

Bentonville, Ark.
January 23, 1952.

Re: Bawe Metals Division,
DMEA- 2795,
Leland S. Heller,
Boise, Idaho.

U.S. Department of Interior,
Defense Minerals Exploration Adm.,
Washington 25, D.C.

Dear Sirs:

I have a small interest in a Silver, Lead and Zinc mine owned by Mr. Leland S. Heller, Rt. # 3, Boise, Idaho. We have done quite a lot of testing on this prospective mine and a representative from the DMEA, office inspected the mine and made a recommendation for the Government to furnish some money for further exploration. This application was compledte by Mr. Heller and sent to your office sometime in September and I just had a letter from him stating that as to date he had had no word from your office in regard to the matter.

We would like for this matter to be expedited so that we can start to work on the mine just as soon as the road can be opened to the mineing area.

Can you please furnish me with the information as to what action has been taken in regard to this matter?

Sincerely,

Olin K. Knight

Olin K. Knight,
Box 208,
Bentonville, Ark.

UNITED STATES 500
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

January 28, 1953

Memorandum

To: Administrator

From: Acting Chief, Base Metals Division

Subject: Denial of application Docket No. DMEA-2795, Leland S. Heller, Warm Springs Claim, Valley County, Idaho (Lead-Zinc)

The above-cited application was received by the Field office October 27,1952, and by this office December 1, 1952.

A previous contract, Docket No. DMA-32, Contract No. Idm-E75, provided a total estimated cost of $600.00, of which $514.50 was expended. The work consisted of surface trenching, and the Field Team examination of the trenches indicated that the results of the exploration were entirely negative and no evidence was obtained indicating future posibilities for production of lead or zinc.

After the completion of the trenching, Mr. Heller drilled two vertical diamond drill holes, in the cost of which the Government did not participate. Hole No. 1 was drilled to a depth of 61.5 feet and hole No. 2 to 89.5 feet. Mineralized material was cut in hole No. 1 from 51.5 to 56.5 feet. The thickness of the mineralized zone is probably somewhat less than recorded due to the structure not being horizontal. Lean mineralization and thin structures cause the Field Team to conclude that the expenditure of Government funds cannot be justified.

The Field Team and the Washington commodity members recommend that the application be denied, to which the Base Metals Division concurs.

A. G. Keating

A. G. Keating

500

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

January 28, 1953

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The Field Team and the Washington commodity members recommend that the application be denied, to which the Base Metals Division concurs.

A. G. Keating

FILE COPY
SURNAME:

500

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

J.W. Alt
Keating
Defendorf

January 28, 1953

Memorandum

To: Administrator

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JWAlt/AGKeating/bjl

A. G. Keating

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals Division
Mr. Alt
Mr. Bishop
Mr. Kinkel
Region II (2)
Chron.

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

December 24, 1952

Memorandum

To: Mr. George Keating, Base Metals DMEA

From: O. M. Bishop, Base Metals, USBM

Subject: Warm Springs Mine, Valley County, Idaho, DMEA Docket 2795 - Concurrance in denial.

The subject property was the site of DMEA exploration under contract Idm-E75, Docket 32X. This exploration consisted of trenches bulldozed August 6-11, 1951. This work apparently found no mineralization of worth. Subsequently Mr. Heller, the owner, drilled two vertical diamond drill holes (Sept. 23-28, 1952), about 100 feet apart on the strike of the vein. Hole No. 1 was drilled to a depth of 61½ feet and hole No. 2 to 89 feet. Mineralized material was cut in Hole No. 1 at 51.5 to 56.5 ft. of depth, at 56.5 to 61.5 feet the hole was reported in "fault formation". Hole 2 encounted "vein material", at 68 to 68.5 and from 68.5 to 89.5 feet cuttings are described as "fault material". The assay record does not corroborate the drillers log as to where mineralization occurred, for Sample #14 came from 62 to 66 feet in, while Sample #15 has no description as to hole or depth. No. 14 assayed 4.8 ounces silver, 4.0% zinc, and 4.9 percent lead while No. 15 contained 4.5 ounces silver, 4.5 % zinc and but a trace of lead.

The field team notes that the thickness of the mineralized zone is probably somewhat less than recorded due to the fact that the structure is not horizontal. Lean mineralization and thin structures incline the field team to believe the property has no commercial possibilities. They therefore recommend denial. We concur in this recommendation.

O. M. Bishop

O. M. Bishop

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

December 24, 1952

Memorandum

To: Mr. George Keating, Base Metals DMEA

From: O. M. Bishop, Base Metals, USBM

Subject: Warm Springs Mine, Valley County, Idaho, DMEA Docket 2795 - Concurrance in denial.

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O. M. Bishop

O. M. Bishop

IN REPLY REFER TO:

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

December 16, 1952

Memorandum

To: Mr. H. F. Keller

From: Erwin J. Lyons USGS
A. R. Kinkel, Jr. USGS

Re: Docket DMEA-2795
Leland S. Heller
Warm Springs Claim
Valley County, Idaho
Total cost: $21,656.25
Lead-zinc-silver

Subject: Recommendation for denial

Leland S. Heller has requested Government assistance to explore his property, the Warm Springs claim, in Valley County, Idaho. The proposed program consists of two stages. The first stage is diamond drilling four holes having a total footage of 600 feet. Estimated cost is $3,917.50. The second stage, dependent upon the success of the first, is shaft sinking and underground exploration, the total estimated cost of which is $17,738.75.

The applicant had a DMEA contract to explore this property by bulldozing a number of cuts along the strike of the vein. This work revealed no evidence of mineralization at the surface and the field examiner recommended that no certification of the property be made and that no further exploration be considered.

Subsequently the applicant put down two diamond drill holes. Drill hole No. 1 showed 5 feet of vein material and hole No. 2 showed 4 feet of ore which would indicate a vein width of about 2 feet. The 4 feet of ore from drill hole No. 2 assayed 4.1% Zn, 4.9% Pb, and 4.80 oz. Ag per ton. (A second assay sheet which showed 4.5% Zn, Tr Pb, and 4.50 oz. Ag per ton did not indicate the source of the sample.)

The field team recommends that the application be denied. We concur in the field team's denial of exploration on this project. The vein widths are too small and the grade of ore is submarginal.

Erwin J. Lyons for ARK.
Erwin J. Lyons

A R Kinkel Jr.
Arthur R. Kinkel, Jr.

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

December 16, 1952

Memorandum

Re: Docket DMEA-2795
Leland S. Heller
Warm Springs Claim
Valley County, Idaho
Total cost: $21,656.25
Lead-zinc-silver

To: Mr. H. F. Keller

From: Erwin J. Lyons USGS
A. R. Kinkel, Jr. USGS

Subject: Recommendation for denial

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Erwin J. Lyons

Arthur R. Kinkel, Jr.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
[redacted]
So. 157 Howard Street
Spokane 4, Washington

December 10, 1952

Mr. A. R. Kinkle, Jr.
Mineral Deposits Branch
U. S. Geological Survey
Department of the Interior
Washington 25, D. C.

Re: Warm Springs claim
Valley County, Idaho
Docket DMEA 2795

Dear Art:

Reference is made to your letter of December 5, 1952, in which you suggest reconsideration of the Warm Springs application.

All of the information we have available, coupled with verbal reports of men who have been on the ground, note that the Warm Springs structure is weak and holds little promise of being developed into a producing mine. This factor was quite evident following the bulldozing done in Heller's previous contract. Moreover, it would appear from the positions of the No's. 1 and 2 diamond drill holes that they intersected the vein at acute angles and that actually the vein might only be about one-third as thick as suggested by drill cores. For these reasons, we do not consider this property as warranting further exploration assistance from DMEA.

Very truly yours,

A. E. Weissenborn

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

cc: USBM (2)
Kiilsgaard

December 1, 1952

Leland S. Heller
Route #3
Boise, Idaho

Subject: DMEA-2795
Re: Warm Springs Mine

My dear Mr. Heller:

The receipt of your application dated October 24, 1952 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-2795 and referred to the Base Metals Division.

Kindly refer to DMEA-2795 in any future correspondence relating to your application.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams, Chief
Operation's Control and
Statistics Division

25451

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

December 1, 1952

Memorandum

To: Executive Officer, DMEA Field Team, Region II

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned Docket Number to an application recently received from Region II.

DMEA-2795 Heller, Leland S.

ROBERT E. ADAMS

Robert E. Adams, Chief
Operation's Control and
Statistics Division

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

November 21, 1952

Mr. Lee Heller
Route 3
Boise, Idaho

Dear Mr. Heller:

This will acknowledge receipt of your letter of October 24 in which you enclosed copies of a drill log and also assay certificates, all of which are being returned herewith. We have made copies of these data and are forwarding them to Washington along with your application You may expect to hear from Washington concerning further processing of your application

Sincerely yours,

Thor H. Kiilsgaard
For: M E. Volin
Acting Executive Officer
DMEA Field Team, Region II

Enclosures

cc: DMEA (2)
USBM (2)

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION

WASHINGTON 25, D. C.

[redacted]
So 157 Howard Street
Spokane 4, Washington

November 21, 1952

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Thor H. Kiilsgaard
For: M. E. Volin
Acting Executive Officer
DMEA Field Team, Region II

Enclosures

cc: DMEA (2)✓
USBM (2)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

[redacted]
So. 157 Howard Street
Spokane 4, Washington

November 21, 1952

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

Dear Mr. Johnson:

Enclosed are three copies of an application submitted by Mr. Leland S. Heller on the Warm Springs property, Valley County, Idaho. One copy of the application has been retained for the files of this office. The application was received at this office on October 27, 1952, and has been held pending receipt of drill logs and assay data from the applicant. These data are now attached to the application.

It will be noted that Mr. Heller formerly had a DMEA contract (Docket 32X, Contract Idm-E75) on this property, the work consisting of bulldozing as outlined on the map accompanying this application. Since completion of the dozing in Contract Idm-E75, the applicant has put down two vertical diamond drill holes. Hole No. 1 was collared 15 feet southeast of a fault exposed in a bulldozed cut (see map attached to final report on Contract Idm-E75, by Elton A. Youngberg, October 1951). About 100 feet to the southwest of this cut, Youngberg shows a vein trending parallel to the fault but at a steeper dip. This vein is evidently the one encountered between 51.5 and 56.5 feet in Hole No. 1. This hole undoubtedly cuts the vein at an acute angle of intersection; consequently, there is little reason to believe there is anywhere near 5 feet of vein as might be interpreted at first glance.

Diamond drill Hole No. 2 was collared about 35 feet southeast of the vein-fault structure and put down vertically for 89.5 feet. Core from this hole shows vein material from 68 to 68.5 feet.

There appears to be little reason for making a field examination of this property. Reports are available in the files of Docket DMEA 32X and, with the exception of the drilling, no work apparently has been done since the previous contract terminated. Youngberg's final report on Contract Idm-E75 states "....results of the exploration program were entirely negative and no evidence was obtained that the vein has commercial possibilities." Results of the diamond drilling do little to change this conclusion.

The Field Team advises that no further attention be given this application.

By DMEA Field Team, Region II

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

Thor H. Kiilsgaard, Acting Member
(U. S. Bureau of Mines)

Enclosures

cc: USBM (2)

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

[redacted]
[illegible] 157 Howard Street
Spokane 4 Washington

November 21, 1952

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

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The Field Team advises that no further attention be given this application

By DMEA Field Team, Region II

M. E. Wolin, Acting Exec. Officer
(U. S. Bureau of Mines)

Thor H. Killingsard, Acting Member
(U. S. Bureau of Mines)

Enclosures

cc: DMEM (2)

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

[illegible]
[illegible] 197 Howard Street
Spokane 4, Washington

November 21, 1952

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

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By DMEA Field Team, Region II

M. H. Volin, Acting Exec. Officer
(U. S. Bureau of Mines)

Thor K. Killagaard, Acting Member
(U. S. Bureau of Mines)

Enclosures

cc: UEBM (2)

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
OCT 27 1952
U. S. G. S.
SPOKANE, WASH.

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

Defense Minerals Administration

Not to be filled in by applicant

Docket No. DMEA - 2795
Metal or Mineral
Date Received 12/1/52
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Leland S. Heller
Route #3
Boise, Idaho

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

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

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

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

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

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it None.

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Listed under 3(a) on supplement sheet.

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

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

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

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

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

16—66551-1

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

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

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

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

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

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

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

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

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

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

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

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

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

See supplement sheet

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated October 24, 1952

(Applicant)

By .....

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

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

SUPPLEMENT TO DMEA FORM NO. MF-103

1(a) Leland S. Heller, Route #3, Boise, Idaho.

3(a) Warm Springs Patented Claim No. 1072706, recorded Book III of Patents, Page 152, County Recorder's Office, Valley County, Cascade, Idaho, May 11, 1935. Warranty Deed to L. S. Heller, December 4, 1946, recorded Book XXIII of Deeds, Page 638, Office of Recorder, Valley County, Cascade, Idaho. Unpatented Mining Claims Warm Springs Nos. 2 and 3, proof of labor for year ending July, 1952, recorded in Book I, Proof of Labor, Page 2, Office of Recorder, Valley County, Cascade, Idaho. Notices posted October 18, 1952, for Warm Springs Nos. 4 and 5.

(b) Warm Springs.

(c) Owner.

(e) None.

(f) Listed under 3(a).

4(a) Property originally located in the late 1880's, held continuously as mining property since that time. E. H. Heller, now deceased and father of applicant, took possession of claim by verbal relinquishment in 1916. In 1924, No. 1 shaft as shown on accompanying drawing was sunk by E. H. Heller. In 1931 and 1938, shaft No. 4 was sunk by the applicant. Numerous other small excavations and shafts sunk during intervening years as assessment work. A cabin was built on the property in 1924 and has since been kept in repair. The property will be accessible for examination purposes until snow prohibits about November 8.

(b) A large percent of the ore taken from shaft No. 1 was removed by various individuals from 1924, at the time it was sunk, until 1939. During October, 1939, the applicant shipped 1,600 pounds of ore remaining on the dump of shaft No. 1 to the American Smelting and Refining Company, Murray, Utah. The returns from this shipment showed 12.5% lead and 22.3% zinc.

(c) The ore in shafts 1 and 2 appeared to have granite on both walls; however, diamond drilling done during September this year showed that the ore lay between granite on the hanging wall and igneous rock on the foot wall. Accompanying this application are copies of two reports--one by Mr. Edward F. Fitzhugh, Jr., mining geologist; the other, a Geophysical Survey by Wade M. Dale. It is not necessary to return either of these reports.

(d) The property is accessible by a good Forest Service road. It is 35 miles from Banks, Idaho, the nearest railroad; and 25 miles from Garden Valley--an agricultural, mining and lumbering area.

(e) MANPOWER: Availability good because of nearness to the varying industries in the Garden Valley area, and Boise, Idaho, a distance of 78 miles.

MATERIALS: An abundance of timber suitable for mining available on the property.

SUPPLIES & EQUIPMENT: All types of mining supplies and equipment available at Boise.

WATER: An abundance for domestic use, as well as warm water which will be of great benefit in milling operations.

Leland S. Heller, Route #3, Boise, Idaho

POWER: Exploration work will be done with gasoline-powered equipment. The closest public service electric power lines are 25 miles distant and hydro-electric power may be developed near the property should exploration work prove strategic minerals of sufficient quantity to warrant the development.

5(a) Lead and zinc.

(b) It is proposed that the work be done in two steps:

FIRST: Further exploration by diamond drilling. Four additional holes as shown on the accompanying map. I recommend that No. 1, as shown, be drilled first. By drilling this hole approximately 40 feet opposite hole No. 2, drilled during September this year, the vein should be cut at a substantially deeper depth and also will afford an exact plotting of the vein as to direction and dip so that subsequent holes may be drilled to the ore with a high degree of accuracy as to depth desired. The accompanying map shows past exploration work and, in addition, shows the approximate location of four diamond drill holes to total approximately 600 feet.

STEP NO. 2: The proposed exploration work after drilling consists of a 1½ compartment shaft to a depth of 100 feet, a cross-cut of approximately 75 feet to the vein and 200 feet of drift along the vein. The exact location of the shaft to be determined upon after the completion of step No. 1.

(c) Step No. 1 to be started about June 1, 1953, and completed within 40 days. Step No. 2 to be started immediately after Step No. 1 and to be completed within four months.

(d) The applicant has worked underground for a number of mining operations; as engineer and assayer for the Boulder Mining Company on Elk Creek, Boise County, during the summer of 1931; six years in Engineering Department, Idaho Power Company; four years as manager of Malheur Cooperative Electric Association, a rural electrification project at Vale, Oregon; a lead man in shipyard work, and chief electrician U. S. Merchant Marine during the last war; drove a tunnel 175 feet on property owned at the head of Daggett Creek, Boise County, during the years 1932-1936.

A qualified shaft man and underground miner to be employed, who would be capable of acting as working foreman during exploration work.

6 STEP NO. 1

(a)	Diamond drilling to be done by contract at not more than $5.25 per foot	$3,150.00
(b)	Supervision and care of core boxes, etc., at $2.00 per hour	640.00
(c)	Tubs, or other large water containers, to afford the recovery of minerals that might otherwise be dissipated. Three tubs at $2.50 each	7.50
	Sixteen core boxes at $2.00 each	32.00
(d)	None.	
(e)	None.	
(f)	None.	
(g)	Assays, lead and zinc, 24 at $2.00 each.	48.00
(h)	Transportation, etc.	40.00
		$3,917.50

7(a) Yes.

(b) Applicant has written assurety of funds from associates. This will be advanced in escrow prior to starting of work.

6

STEP NO. 2

(a) None.

(b) 1 Miner at $1.85
1 Mucker at $1.65
1 Timberman & Hoistman at $1.75
1 Supervisor, also to assist in various work--commissary, timekeeping, etc.--at $2.25

Above estimated for one shift. An additional shift to be added at such time as warranted. This will comprise:
1 Miner Foreman at $1.85
1 Mucker at $1.65
1 Timberman, etc., at $1.75

Additional miners and muckers will be employed when drifting will afford working on two faces.

(c)

12 Single Cots at $15.00 each	$ 180.00
12 Single Matresses at $15.00 each.	180.00
1 Wood Cook Stove (used) at $50.00.	50.00
1 Hot Water Tank at $30.00.	30.00
1 Kitchen Sink with fixtures at $50.00.	50.00
4 Pieces 2' Drill Steel at $2.17 each	8.68
4 Pieces 4' Drill Steel at $3.02 each	12.08
4 Pieces 6' Drill Steel at $3.82 each	15.28
150 Drill Steel Bits at 50¢ each	75.00
100' 3/4" Galv. Pipe (for water line) at 15¢ per foot	15.00
2 Muck Sheets at $25.00 each	50.00
10 10-Lb. Cases 40% Atlas Gelatin Blasting Powder at $24.15 case.	241.50
1000 Blasting Caps Electric at $16.40 per 100	164.00
1 Blasting Machine	45.50
300' Connecting Wire at $1.00 per 100'	3.00
4 Hardboiled Hats at $5.00 each	20.00
4 Miner's Lamps at $2.90 each	11.60
Picks, Bars, Shovels	45.00
Blow Pipe with Connections	5.00
1 Manifold for Air Line	10.00
Miscellaneous--Bolts, Hinges, Nails, etc.	48.00
100 Lbs. Carbide	8.60
3 Sheaves at $12.00 each	36.00
Gasoline and Oil	600.00
Transportation and Haulage	350.00
Miscellaneous Commissary Equipment	38.00
	$2,292.24

(d)

1 125-Cu. Ft. Per Minute Compressor, f.o.b. Boise	$3,268.00
1 Bar Arm and Clamps	145.00
1 Sinker Drill, f.o.b. Boise	365.00
1 Sinker Leg, f.o.b. Boise	195.00
1 Hose for Sinker Leg	13.00
100' (2 50-Ft. Lengths) 3/4" Air Hose (Coupled) at $23.50 each	47.00
1 Water Pressure Tank	65.00
1 Shell for Hammer	190.00
200' 2" Black Pile (for Air Line)	75.00
1 18 H.P. Single Drum Gasoline Hoist.	910.00
Approximate freight.	75.00

(Cont'd)

400' 1/2" Wire Rope	$ 84.00
1 Skip Bucket	75.00
1 Mine Car	160.00
500' 8-Lb. Mine Rail, including Bolts, Plates & Spikes	500.00
	$6,167.00
GRAND TOTAL	$8,459.24
Less cost of heavy machinery & equipment (hoist, compressor, sinker drill, mine car, skip bucket & accessories) that may be rented	5,297.00
	$3,162.24
Plus rental at approximately 8% per month on $5,297.00 for four months	1,695.04
	$4,857.28

(e) None.

(f) Cook Shack

Material	$1,080.00	
Labor	960.00	
Haulage	85.00	$2,125.00

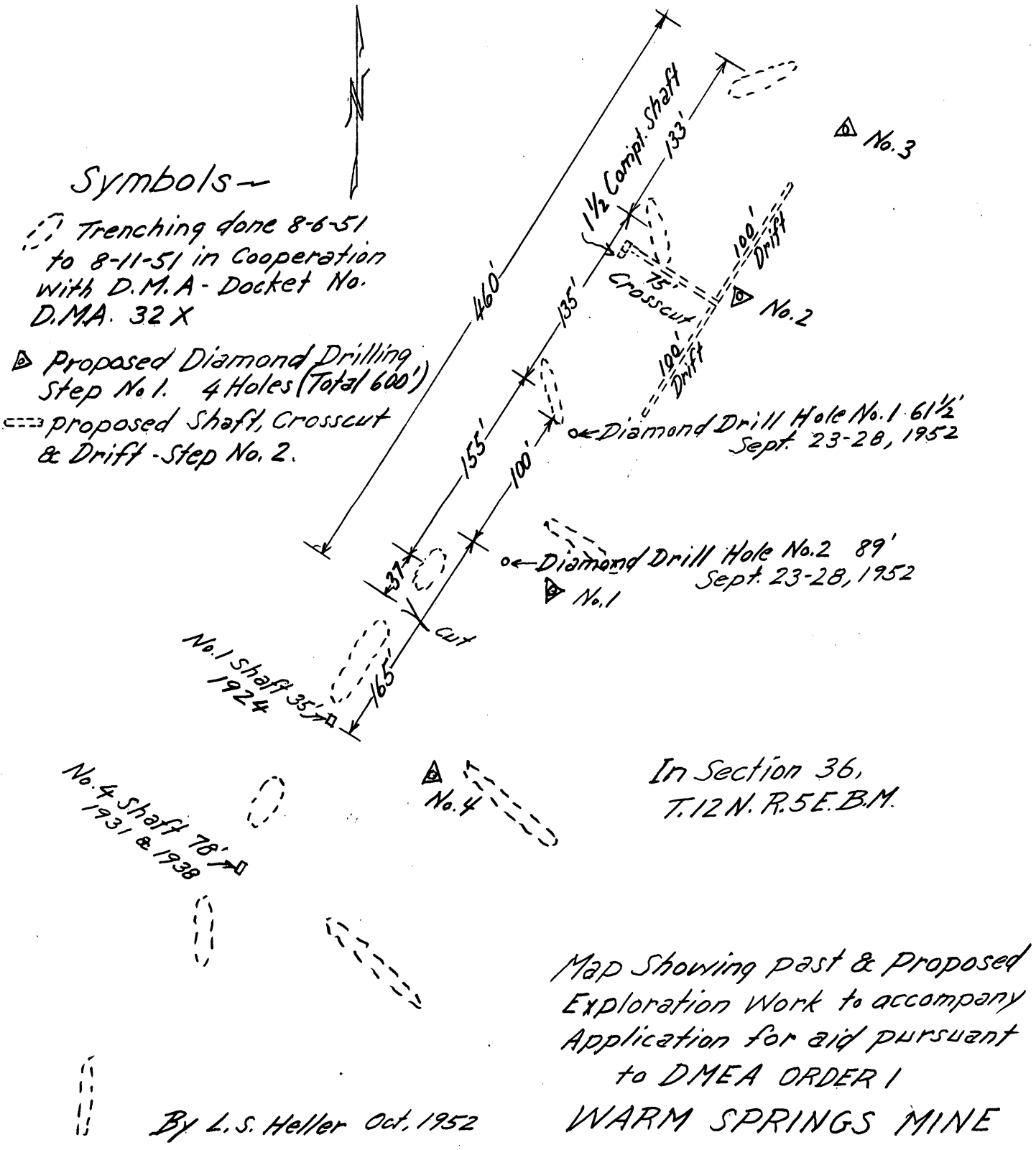
(g)

Workman's Compensation	$780.00	
Accounting	350.00	
Assaying	200.00	
Miscellaneous	150.00	$1,480.00
TOTAL 6(c), (d), (f) & (g)		$8,462.28
TOTAL ESTIMATED LABOR 6(b)		12,162.72
(h) Contingencies 5%		1,031.25
TOTAL ESTIMATED COST		$21,656.25

7(a) Applicant has assurity from associates that funds for Step No. 2 will be made available should the economic feasibility appear good upon completion of Step No. 1.

(b) Money.

DMEA-2195



Map Showing past & Proposed Exploration Work to accompany Application for aid pursuant to DMEA ORDER 1

WARM SPRINGS MINE

By L. S. Heller Oct. 1952

Nic[illegible]ls & Thompson Core D[illegible]ling Co., Inc.

DRILLER'S REPORT

For Week Ending September 27 1952

For: Sec Hall & H. T. Baker

Drilling at: Warm Springs Silver Creek

Hole No. 1 **Angle** 90° **Drill No.**

Location Surface

Drill Runners

Day James Thompson

Swing

Night

DATE	SIZE HOLE	FROM	TO	FEET DRILLED	FEET OF CORE RE-COVERED	GEOLOGY	FEET & SIZE REAMED	FEET & SIZE CASED	FEET CEMENTED	FEET OF CEMENT DRILLED	RUNNER
9-24	NX	0	17	17	3	overburden decomposed	—	NX-7	—	—	Thompson
"	BX	17	26.5	9.5	—	granite	BX-5	BX 22	—	—	"
9-25	BX	26.5	61.5	35	8	26.5 to 51.5 soft decomposed granite and pegmatite 51.5 to 56.5 iron material 56.5 to 61.5 fast formation	—	—	—	—	"
End of hole #1 total depth 61.5 feet											
Hole #2 angle 90° location surface											
9-26	NX	0	4	4	2	decomposed granite overburden	—	NX-3	—	—	"
9-27	BX	4	27.5	23.5	10	granite	—	BX-4	—	—	"
"	BX	27.5	58	28.5	16	"	—	BX-30	—	—	"

Comments: 9-22 - 7 hours loading equipment and trucking equipment to drilling location at Warm Springs, Silver Creek, Twin Falls, Idaho.
9-23 - 9 hours unloading equipment moving and setting up on Hole #1.
9-26 - 9 hours pulling casing, tearing down, moving and setting up on hole #2.

James Thompson
FOREMAN

Nic[illegible]ls & Thompson Core D[illegible]ling Co., Inc.

DRILLER'S REPORT

For Week Ending October 4 **19** 53

For: Lee Hilliard & L. Baker

Drilling at: Warren Springer, Idaho Co.

Hole No. 2 **Angle** Hi **Drill No.**

Location Nanfarm

Drill Runners

Day James Thompson

Swing

Night

DATE	SIZE HOLE	FROM	TO	FEET DRILLED	FEET OF CORE RECOVERED	GEOLOGY	FEET & SIZE REAMED	FEET & SIZE CASED	FEET CEMENTED	FEET OF CEMENT DRILLED	RUNNER
9-28	HX	55	89.5	31.5	18"	55 to 63 [illegible] granite	--	-	-	--	Thompson
						63 to 66 [illegible]					
						66 to 67 [illegible]					
						67 to 68.5 vein material					
						68.5 to 89.5 fault material					
End of hole No. 2						total depth 89.5					

Comments: Drilling program completed September 27, 1953

James Thompson

FOREMAN

Adelmann Bros.
ASSAYERS
[illegible] MAIN STREET
[illegible]

ASSAY CERTIFICATE

[illegible] 4-1661 — 10/2 — 1958

M [illegible]

City

ASSAY SAMPLE No.	OWNER'S MARK ON SAMPLE	GOLD OZ. PER TON	GOLD VALUE PER TON	SILVER OZ. PER TON	SILVER VALUE PER TON	TOTAL VALUE PER TON	PERCENTAGE OF COPPER	PERCENTAGE OF ZINC	PERCENTAGE OF LEAD
14	Sample #1 —	Trace	—	4.80	$4.32			4.0%	4.9%
	Assay Note 10-66								

SILVER @ 90¢ Per Tr. Oz.

GOLD @ $ 35.00 Per Tr. Oz.

[illegible] Assayer

Per [illegible]

Adelmann Bros.
ASSAYERS
622 IDAHO STREET
BOISE, IDAHO
PHONE BOISE [redacted] 4-1661

ASSAY CERTIFICATE

10/4 1952

Mr. Ken Heller
City

ASSAY SAMPLE NO.	OWNER'S MARK ON SAMPLE	GOLD			SILVER			TOTAL VALUE PER TON		PERCENTAGE OF		
		OZ. PER TON	VALUE PER TON		OZ. PER TON	VALUE PER TON				COPPER	ZINC	LEAD
(15)	Sample #1	Trace	$		4.00	$ 4.	05	$ 4.	05		45%	Trace

SILVER @ 90¢ Per Tr. Oz.

GOLD @ $35.00 Per Tr. Oz.

A. E. Adelmann Assayer

Per

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
OCT 27 1952
U. S. G. S.
SPOKANE, WASH.

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

Not to be filled in by applicant

Docket No. DMEA-2795
Metal or Mineral
Date Received 12/1/52
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Leland S. Heller
Route #3
Boise, Idaho

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

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

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

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

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

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it None.

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Listed under 3(a) on supplement sheet.

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

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

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

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

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

5. *The exploration project.*—(*a*) [illegible]te the mineral or minerals for which you wi[illegible]o explore Lead and zinc.

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

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

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

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

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

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

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

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

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

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

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

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

See supplement sheet.

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated October 24, 1952

(Applicant)

By .....

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

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

SUPPLEMENT TO DMEA FORM NO. MF-103

1(a) Leland S. Heller, Route #3, Boise, Idaho.

3(a) Warm Springs Patented Claim No. 1072706, recorded Book III of Patents, Page 152, County Recorder's Office, Valley County, Cascade, Idaho, May 11, 1935. Warranty Deed to L. S. Heller, December 4, 1946, recorded Book XXIII of Deeds, Page 638, Office of Recorder, Valley County, Cascade, Idaho. Unpatented Mining Claims Warm Springs Nos. 2 and 3, proof of labor for year ending July, 1952, recorded in Book I, Proof of Labor, Page 2, Office of Recorder, Valley County, Cascade, Idaho. Notices posted October 18, 1952, for Warm Springs Nos. 4 and 5.

(b) Warm Springs.

(c) Owner.

(e) None.

(f) Listed under 3(a).

4(a) Property originally located in the late 1880's, held continuously as mining property since that time. E. H. Heller, now deceased and father of applicant, took possession of claim by verbal relinquishment in 1916. In 1924, No. 1 shaft as shown on accompanying drawing was sunk by E. H. Heller. In 1931 and 1938, shaft No. 4 was sunk by the applicant. Numerous other small excavations and shafts sunk during intervening years as assessment work. A cabin was built on the property in 1924 and has since been kept in repair. The property will be accessible for examination purposes until snow prohibits about November 8.

(b) A large percent of the ore taken from shaft No. 1 was removed by various individuals from 1924, at the time it was sunk, until 1939. During October, 1939, the applicant shipped 1,600 pounds of ore remaining on the dump of shaft No. 1 to the American Smelting and Refining Company, Murray, Utah. The returns from this shipment showed 12.5% lead and 22.3% zinc.

(c) The ore in shafts 1 and 2 appeared to have granite on both walls; however, diamond drilling done during September this year showed that the ore lay between granite on the hanging wall and igneous rock on the foot wall. Accompanying this application are copies of two reports--one by Mr. Edward F. Fitzhugh, Jr., mining geologist; the other, a Geophysical Survey by Wade M. Dale. It is not necessary to return either of these reports.

(d) The property is accessible by a good Forest Service road. It is 35 miles from Banks, Idaho, the nearest railroad; and 25 miles from Garden Valley--an agricultural, mining and lumbering area.

(e) MANPOWER: Availability good because of nearness to the varying industries in the Garden Valley area, and Boise, Idaho, a distance of 78 miles.

MATERIALS: An abundance of timber suitable for mining available on the property.

SUPPLIES & EQUIPMENT: All types of mining supplies and equipment available at Boise.

WATER: An abundance for domestic use, as well as warm water which will be of great benefit in milling operations.

Leland S. Heller, Route #3, Boise, Idaho

POWER: Exploration work will be done with gasoline-powered equipment. The closest public service electric power lines are 25 miles distant and hydro-electric power may be developed near the property should exploration work prove strategic minerals of sufficient quantity to warrant the development.

5(a) Lead and zinc.

(b) It is proposed that the work be done in two steps:

FIRST: Further exploration by diamond drilling. Four additional holes as shown on the accompanying map. I recommend that No. 1, as shown, be drilled first. By drilling this hole approximately 40 feet opposite hole No. 2, drilled during September this year, the vein should be cut at a substantially deeper depth and also will afford an exact plotting of the vein as to direction and dip so that subsequent holes may be drilled to the ore with a high degree of accuracy as to depth desired. The accompanying map shows past exploration work and, in addition, shows the approximate location of four diamond drill holes to total approximately 600 feet.

STEP NO. 2: The proposed exploration work after drilling consists of a 1½ compartment shaft to a depth of 100 feet, a cross-cut of approximately 75 feet to the vein and 200 feet of drift along the vein. The exact location of the shaft to be determined upon after the completion of step No. 1.

(c) Step No. 1 to be started about June 1, 1953, and completed within 40 days. Step No. 2 to be started immediately after Step No. 1 and to be completed within four months.

(d) The applicant has worked underground for a number of mining operations; as engineer and assayer for the Boulder Mining Company on Elk Creek, Boise County, during the summer of 1931; six years in Engineering Department, Idaho Power Company; four years as manager of Malheur Cooperative Electric Association, a rural electrification project at Vale, Oregon; a lead man in shipyard work, and chief electrician U. S. Merchant Marine during the last war; drove a tunnel 175 feet on property owned at the head of Daggett Creek, Boise County, during the years 1932-1936.

A qualified shaft man and underground miner to be employed, who would be capable of acting as working foreman during exploration work.

6 STEP NO. 1

(a)	Diamond drilling to be done by contract at not more than $5.25 per foot	$3,150.00
(b)	Supervision and care of core boxes, etc., at $2.00 per hour	640.00
(c)	Tubs, or other large water containers, to afford the recovery of minerals that might otherwise be dissipated. Three tubs at $2.50 each	7.50
	Sixteen core boxes at $2.00 each	32.00
(d)	None.	
(e)	None.	
(f)	None.	
(g)	Assays, lead and zinc, 24 at $2.00 each.	48.00
(h)	Transportation, etc.	40.00
		$3,917.50

7(a) Yes.

(b) Applicant has written assurety of funds from associates. This will be advanced in escrow prior to starting of work.

Leland S. Heller, Route #3, Boise, Idaho

6

STEP NO. 2

(a) None.

(b) 1 Miner at $1.85
1 Mucker at $1.65
1 Timberman & Hoistman at $1.75
1 Supervisor, also to assist in various work--commissary, timekeeping, etc.--at $2.25

Above estimated for one shift. An additional shift to be added at such time as warranted. This will comprise:
1 Miner Foreman at $1.85
1 Mucker at $1.65
1 Timberman, etc., at $1.75

Additional miners and muckers will be employed when drifting will afford working on two faces.

(c)

12 Single Cots at $15.00 each	$ 180.00
12 Single Matresses at $15.00 each	180.00
1 Wood Cook Stove (used) at $50.00	50.00
1 Hot Water Tank at $30.00	30.00
1 Kitchen Sink with fixtures at $50.00	50.00
4 Pieces 2' Drill Steel at $2.17 each	8.68
4 Pieces 4' Drill Steel at $3.02 each	12.08
4 Pieces 6' Drill Steel at $3.82 each	15.28
150 Drill Steel Bits at 50¢ each	75.00
100' 3/4" Galv. Pipe (for water line) at 15¢ per foot	15.00
2 Muck Sheets at $25.00 each	50.00
10 10-Lb. Cases 40% Atlas Gelatin Blasting Powder at $24.15 case	241.50
1000 Blasting Caps Electric at $16.40 per 100	164.00
1 Blasting Machine	45.50
300' Connecting Wire at $1.00 per 100'	3.00
4 Hardboiled Hats at $5.00 each	20.00
4 Miner's Lamps at $2.90 each	11.60
Picks, Bars, Shovels	45.00
Blow Pipe with Connections	5.00
1 Manifold for Air Line	10.00
Miscellaneous--Bolts, Hinges, Nails, etc.	48.00
100 Lbs. Carbide	8.60
3 Sheaves at $12.00 each	36.00
Gasoline and Oil	600.00
Transportation and Haulage	350.00
Miscellaneous Commissary Equipment	38.00
	$2,292.24

(d)

1 125-Cu. Ft. Per Minute Compressor, f.o.b. Boise	$3,268.00
1 Bar Arm and Clamps	145.00
1 Sinker Drill, f.o.b. Boise	365.00
1 Sinker Leg, f.o.b. Boise	195.00
1 Hose for Sinker Leg	13.00
100' (2 50-Ft. Lengths) 3/4" Air Hose (Coupled) at $23.50 each	47.00
1 Water Pressure Tank	65.00
1 Shell for Hammer	190.00
200' 2" Black Pile (for Air Line)	75.00
1 18 H.P. Single Drum Gasoline Hoist	910.00
Approximate freight	75.00

(Cont'd)

400' 1/2" Wire Rope	$ 84.00
1 Skip Bucket	75.00
1 Mine Car	160.00
500' 8-Lb. Mine Rail, including Bolts, Plates & Spikes	500.00
	$6,167.00
GRAND TOTAL	$8,459.24
Less cost of heavy machinery & equipment (hoist, compressor, sinker drill, mine car, skip bucket & accessories) that may be rented	5,297.00
	$3,162.24
Plus rental at approximately 8% per month on $5,297.00 for four months	1,695.04
	$4,857.28

(e) None.

(f) Cook Shack

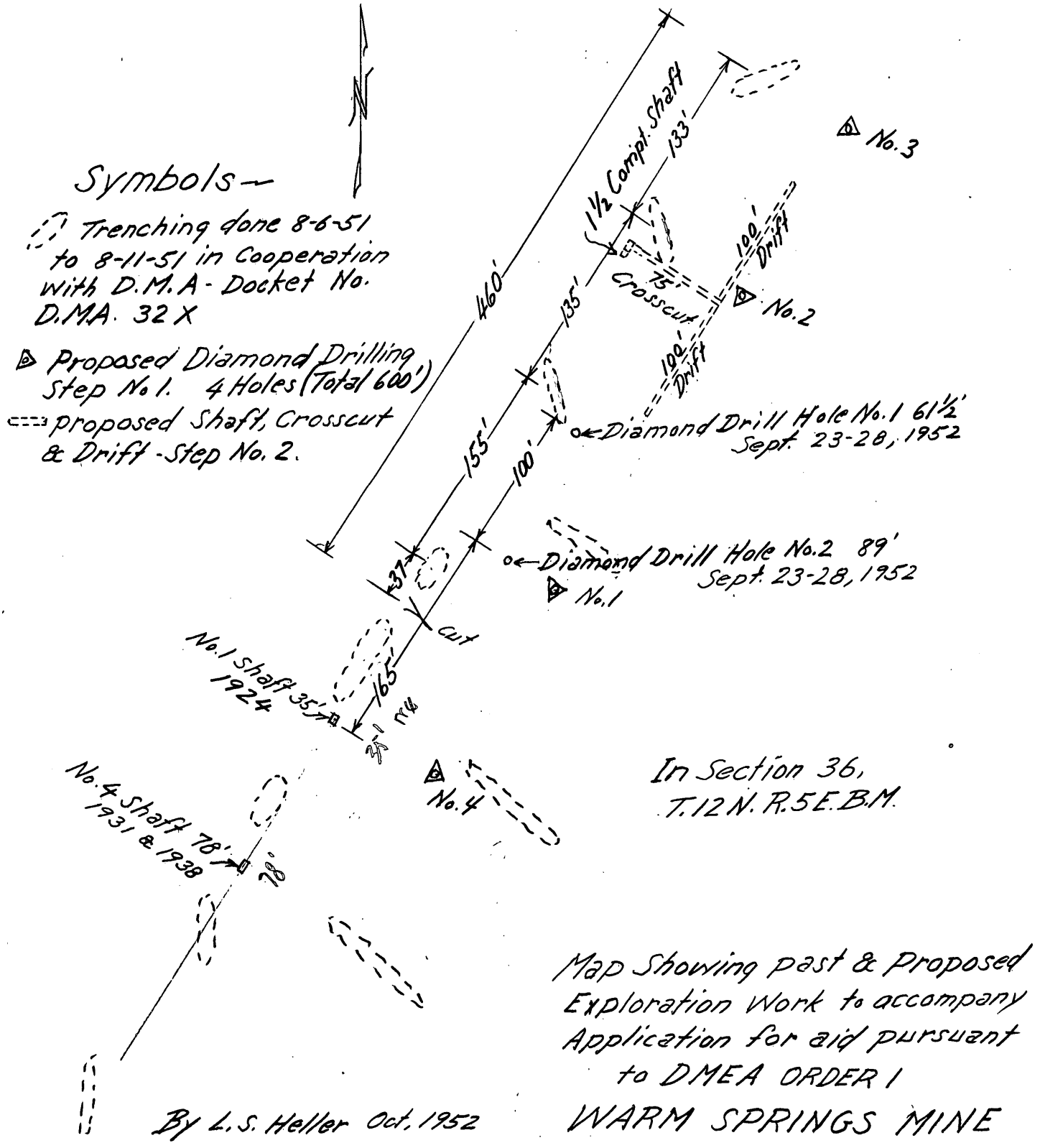
Material	$1,080.00	
Labor	960.00	
Haulage	85.00	$2,125.00

(g)

Workman's Compensation	$780.00	
Accounting	350.00	
Assaying	200.00	
Miscellaneous	150.00	$1,480.00
TOTAL 6(c), (d), (f) & (g)		$8,462.28
TOTAL ESTIMATED LABOR 6(b)		12,162.72
(h) Contingencies 5%		1,031.25
TOTAL ESTIMATED COST		$21,656.25

7(a) Applicant has assurity from associates that funds for Step No. 2 will be made available should the economic feasibility appear good upon completion of Step No. 1.

(b) Money.



Map Showing past & Proposed Exploration Work to accompany Application for aid pursuant to DMEA ORDER 1

WARM SPRINGS MINE

Adelmann Bros.
ASSAYERS
622 IDAHO STREET
BOISE, IDAHO
PHONE [redacted] 1-1661

ASSAY CERTIFICATE

16/2 — 1933

M [illegible]

City

ASSAY SAMPLE	OWNER'S MARK ON SAMPLE	GOLD OZ. PER TON	GOLD VALUE PER TON	SILVER OZ. PER TON	SILVER VALUE PER TON	TOTAL VALUE PER TON	PERCENTAGE OF COPPER	PERCENTAGE OF ZINC	PERCENTAGE OF LEAD
14	Sample #1 — Crude Ores 6'-66'	Trace	—	4.50	4.32			4.6%	4.9%

SILVER @ 64 Per Tr. Oz.

GOLD @ $ 35 Per Tr. Oz.

[illegible] Assayer

Per [illegible]

Adelmann Bros.
ASSAYERS
622 IDAHO STREET
BOISE, IDAHO
PHONE BOISE [redacted] 4-1651

ASSAY CERTIFICATE

11/9 1952

Mr. Lee Keller
City

ASSAY SAMPLE NO.	OWNER'S MARK ON SAMPLE	GOLD OZ. PER TON	GOLD VALUE PER TON	SILVER OZ. PER TON	SILVER VALUE PER TON	TOTAL VALUE PER TON	PERCENTAGE OF COPPER	PERCENTAGE OF ZINC	PERCENTAGE OF LEAD
(15)	Sample #1	None	$	4.00	$ 4.05	$ 4.05		4.5%	.7%

SILVER @ 90c Per Tr. Oz.
GOLD @ $ 35.00 Per Tr. Oz.

A. F. Adelmann Assayer
Per ___

Nicho[illegible] & Thompson Core Dril[illegible]g Co., Inc.

DRILLER'S REPORT

For Week Ending Sept. 26, 27 1952

For: Jas. Kelly & W. T. Baker

Drilling at: Warm Springs Silver Creek

Hole No. 1 **Angle** 90° **Drill No.**

Location Surface

Drill Runners

Day James Thompson

Swing

Night

DATE	SIZE HOLE	FROM	TO	FEET DRILLED	FEET OF CORE RECOVERED	GEOLOGY	FEET & SIZE REAMED	FEET & SIZE CASED	FEET CEMENTED	FEET OF CEMENT DRILLED	RUNNER
9-24	NX	0	17	17	3	overburden & decomposed	—	NX-7	—	—	Hingson
"	BX	17	26.5	9.5	—	granite	BX-5	BX 22	—	—	"
9-25	BX	26.5	61.5	35	8	26.5 to 51.5 soft decomposed granite and pegmatite 51.5 to 56.5 seam material 56.5 to 61.5 fast formation	—	—	—	—	"
End of hole #1 total depth 61.5 feet											
Hole #2 angle 90° location surface											
9-26	NX	0	4	4	3	decomposed granite overburden	—	NX-3	—	—	"
9-27	BX	4	29.5	25.5	10	granite	—	BX-4	—	—	"
"	BX	29.5	58	28.5	16	"	—	BX-30	—	—	"

Comments: 9-22 - 8 hours loading equipment and trucking equipment to drilling location at Warm Springs, Silver Creek, Valley Co. Ida.
9-23 - 9 hours unloading equipment moving and setting up on hole #1.
9-26 - 9 hours pulling casing, tearing down, moving and setting up on hole #2.

James Thompson

FOREMAN

Nichol[redacted] & Thompson Core Drill[redacted]g Co., Inc.

DRILLER'S REPORT

For Week Ending October 4 **19** 52

For: Lee Miller & L. Baker

Drilling at: Thomas Lounge, Silver Creek

Hole No. 2 **Angle** Hor. **Drill No.**

Location Surface

Drill Runners

Day James Thompson

Swing

Night

DATE	SIZE HOLE	FROM	TO	FEET DRILLED	FEET OF CORE RECOVERED	GEOLOGY	FEET & SIZE REAMED	FEET & SIZE CASED	FEET CEMENTED	FEET OF CEMENT DRILLED	RUNNER
9-28	BX	58	79.5	21.5	18"	58 to 62 decomposed granite	–	–	–	–	Thompson
						62 to 64 ore					
						64 to 67 porphyry					
						67 to 68 fault material					
						68 to 68.5 ore material					
						68.5 to 79.5 fault material					
End of hole #2 Total depth 79.5											

Comments: Drilling program completed September 27, 1952

James Thompson

FOREMAN

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPORATION ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
RECEIVED
OCT 27 1952
DEC 1 1952
U. S. G. S.
SPOKANE, WASH.

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

Not to be filled in by applicant

Docket No. DMEA-2795
Metal or Mineral
Date Received 12/1/52
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Leland S. Heller
Route #3
Boise, Idaho

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

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

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

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

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

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

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

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

(*e*) If you own the land, describe any liens or encumbrances on it None.

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Listed under 3(a) on supplement sheet.

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

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

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

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

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

5. *The exploration project.*—State the mineral or minerals for which you wish to explore Lead and zinc.

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

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

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

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

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

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

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

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

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

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

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

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

See supplement sheet

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

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

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

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated October 24, 1952

(Applicant)

By .....

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

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

SUPPLEMENT TO DMEA FORM NO. MF-103

1(a) Leland S. Heller, Route #3, Boise, Idaho.

3(a) Warm Springs Patented Claim No. 1072706, recorded Book III of Patents, Page 152, County Recorder's Office, Valley County, Cascade, Idaho, May 11, 1935. Warranty Deed to L. S. Heller, December 4, 1946, recorded Book XXIII of Deeds, Page 638, Office of Recorder, Valley County, Cascade, Idaho. Unpatented Mining Claims Warm Springs Nos. 2 and 3, proof of labor for year ending July, 1952, recorded in Book I, Proof of Labor, Page 2, Office of Recorder, Valley County, Cascade, Idaho. Notices posted October 18, 1952, for Warm Springs Nos. 4 and 5.

(b) Warm Springs.

(c) Owner.

(e) None.

(f) Listed under 3(a).

4(a) Property originally located in the late 1880's, held continuously as mining property since that time. E. H. Heller, now deceased and father of applicant, took possession of claim by verbal relinquishment in 1916. In 1924, No. 1 shaft as shown on accompanying drawing was sunk by E. H. Heller. In 1931 and 1938, shaft No. 4 was sunk by the applicant. Numerous other small excavations and shafts sunk during intervening years as assessment work. A cabin was built on the property in 1924 and has since been kept in repair. The property will be accessible for examination purposes until snow prohibits about November 8.

(b) A large percent of the ore taken from shaft No. 1 was removed by various individuals from 1924, at the time it was sunk, until 1939. During October, 1939, the applicant shipped 1,600 pounds of ore remaining on the dump of shaft No. 1 to the American Smelting and Refining Company, Murray, Utah. The returns from this shipment showed 12.5% lead and 22.3% zinc.

(c) The ore in shafts 1 and 2 appeared to have granite on both walls; however, diamond drilling done during September this year showed that the ore lay between granite on the hanging wall and igneous rock on the foot wall. Accompanying this application are copies of two reports--one by Mr. Edward F. Fitzhugh, Jr., mining geologist; the other, a Geophysical Survey by Wade M. Dale. It is not necessary to return either of these reports.

(d) The property is accessible by a good Forest Service road. It is 35 miles from Banks, Idaho, the nearest railroad; and 25 miles from Garden Valley--an agricultural, mining and lumbering area.

(e) MANPOWER: Availability good because of nearness to the varying industries in the Garden Valley area, and Boise, Idaho, a distance of 78 miles.

MATERIALS: An abundance of timber suitable for mining available on the property.

SUPPLIES & EQUIPMENT: All types of mining supplies and equipment available at Boise.

WATER: An abundance for domestic use, as well as warm water which will be of great benefit in milling operations.

Leland S. Heller, Route #3, Boise, Idaho

POWER: Exploration work will be done with gasoline-powered equipment. The closest public service electric power lines are 25 miles distant and hydro-electric power may be developed near the property should exploration work prove strategic minerals of sufficient quantity to warrant the development.

5(a) Lead and zinc.

(b) It is proposed that the work be done in two steps:

FIRST: Further exploration by diamond drilling. Four additional holes as shown on the accompanying map. I recommend that No. 1, as shown, be drilled first. By drilling this hole approximately 40 feet opposite hole No. 2, drilled during September this year, the vein should be cut at a substantially deeper depth and also will afford an exact plotting of the vein as to direction and dip so that subsequent holes may be drilled to the ore with a high degree of accuracy as to depth desired. The accompanying map shows past exploration work and, in addition, shows the approximate location of four diamond drill holes to total approximately 600 feet.

STEP NO. 2: The proposed exploration work after drilling consists of a 1½ compartment shaft to a depth of 100 feet, a cross-cut of approximately 75 feet to the vein and 200 feet of drift along the vein. The exact location of the shaft to be determined upon after the completion of step No. 1.

(c) Step No. 1 to be started about June 1, 1953, and completed within 40 days. Step No. 2 to be started immediately after Step No. 1 and to be completed within four months.

(d) The applicant has worked underground for a number of mining operations; as engineer and assayer for the Boulder Mining Company on Elk Creek, Boise County, during the summer of 1931; six years in Engineering Department, Idaho Power Company; four years as manager of Malheur Cooperative Electric Association, a rural electrification project at Vale, Oregon; a lead man in shipyard work, and chief electrician U. S. Merchant Marine during the last war; drove a tunnel 175 feet on property owned at the head of Daggett Creek, Boise County, during the years 1932-1936.

A qualified shaft man and underground miner to be employed, who would be capable of acting as working foreman during exploration work.

6 STEP NO. 1

(a)	Diamond drilling to be done by contract at not more than $5.25 per foot	$3,150.00
(b)	Supervision and care of core boxes, etc., at $2.00 per hour	640.00
(c)	Tubs, or other large water containers, to afford the recovery of minerals that might otherwise be dissipated. Three tubs at $2.50 each	7.50
	Sixteen core boxes at $2.00 each	32.00
(d)	None.	
(e)	None.	
(f)	None.	
(g)	Assays, lead and zinc, 24 at $2.00 each.	48.00
(h)	Transportation, etc.	40.00
		$3,917.50

7(a) Yes.

(b) Applicant has written assurety of funds from associates. This will be advanced in escrow prior to starting of work.

Leland S. Heller, Route #3, Boise, Idaho

6

STEP NO. 2

(a) None.

(b) 1 Miner at $1.85
1 Mucker at $1.65
1 Timberman & Hoistman at $1.75
1 Supervisor, also to assist in various work--commissary, timekeeping, etc.--at $2.25

Above estimated for one shift. An additional shift to be added at such time as warranted. This will comprise:
1 Miner Foreman at $1.85
1 Mucker at $1.65
1 Timberman, etc., at $1.75

Additional miners and muckers will be employed when drifting will afford working on two faces.

(c)

12 Single Cots at $15.00 each	$ 180.00
12 Single Matresses at $15.00 each.	180.00
1 Wood Cook Stove (used) at $50.00.	50.00
1 Hot Water Tank at $30.00.	30.00
1 Kitchen Sink with fixtures at $50.00.	50.00
4 Pieces 2' Drill Steel at $2.17 each	8.68
4 Pieces 4' Drill Steel at $3.02 each	12.08
4 Pieces 6' Drill Steel at $3.82 each	15.28
150 Drill Steel Bits at 50¢ each	75.00
100' 3/4" Galv. Pipe (for water line) at 15¢ per foot	15.00
2 Muck Sheets at $25.00 each	50.00
10 10-Lb. Cases 40% Atlas Gelatin Blasting Powder at $24.15 case.	241.50
1000 Blasting Caps Electric at $16.40 per 100	164.00
1 Blasting Machine	45.50
300' Connecting Wire at $1.00 per 100'	3.00
4 Hardboiled Hats at $5.00 each	20.00
4 Miner's Lamps at $2.90 each	11.60
Picks, Bars, Shovels	45.00
Blow Pipe with Connections	5.00
1 Manifold for Air Line	10.00
Miscellaneous--Bolts, Hinges, Nails, etc.	48.00
100 Lbs. Carbide	8.60
3 Sheaves at $12.00 each	36.00
Gasoline and Oil	600.00
Transportation and Haulage	350.00
Miscellaneous Commissary Equipment	38.00
	$2,292.24

(d)

1 125-Cu. Ft. Per Minute Compressor, f.o.b. Boise	$3,268.00
1 Bar Arm and Clamps	145.00
1 Sinker Drill, f.o.b. Boise	365.00
1 Sinker Leg, f.o.b. Boise	195.00
1 Hose for Sinker Leg	13.00
100' (2 50-Ft. Lengths) 3/4" Air Hose (Coupled) at $23.50 each	47.00
1 Water Pressure Tank	65.00
1 Shell for Hammer	190.00
200' 2" Black Pile (for Air Line)	75.00
1 18 H.P. Single Drum Gasoline Hoist.	910.00
Approximate freight.	75.00

(Cont'd)

Leland S. Heller, Route #3, Boise, Idaho

400' 1/2" Wire Rope	$ 84.00
1 Skip Bucket	75.00
1 Mine Car	160.00
500' 8-Lb. Mine Rail, including Bolts, Plates & Spikes	500.00
	$6,167.00
GRAND TOTAL	$8,459.24
Less cost of heavy machinery & equipment (hoist, compressor, sinker drill, mine car, skip bucket & accessories) that may be rented	5,297.00
	$3,162.24
Plus rental at approximately 8% per month on $5,297.00 for four months	1,695.04
	$4,857.28

(e) None.

(f) Cook Shack

Material	$1,080.00	
Labor	960.00	
Haulage	85.00	$2,125.00

(g)

Workman's Compensation	$780.00	
Accounting	350.00	
Assaying	200.00	
Miscellaneous	150.00	$1,480.00
TOTAL 6(c), (d), (f) & (g)		$8,462.28
TOTAL ESTIMATED LABOR 6(b)		12,162.72
(h) Contingencies 5%		1,031.25
TOTAL ESTIMATED COST		$21,656.25

7(a) Applicant has assurity from associates that funds for Step No. 2 will be made available should the economic feasibility appear good upon completion of Step No. 1.

(b) Money.

Nichols & Thompson Core Drilling Co., Inc.

DRILLER'S REPORT

For Week Ending September 27 1953

For: Lee Hill & W. T. Baker

Drilling at: Warm Springs Silver Creek

Hole No. 1 Angle 90° Drill No.

Location Surface

Drill Runners

Day James Thompson

Swing

Night

DATE	SIZE HOLE	FROM	TO	FEET DRILLED	FEET OF CORE RE-COVERED	GEOLOGY	FEET & SIZE REAMED	FEET & SIZE CASED	FEET CEMENTED	FEET OF CEMENT DRILLED	RUNNER
9-24	BX	0	17	17	3	overburden decomposed	—	NX-7	—	—	Thompson
"	BX	17	26.5	9.5	—	granite	BX-5	BX 22	—	—	"
9-25	BX	26.5	61.5	35	8	26.5 to 51.5 soft decomposed granite and pegmatite 51.5 to 56.5 seam material 56.5 to 61.5 feet formation	—	—	—	—	"
End of hole #1 total depth 61.5 feet											
Hole #2 angle 90° location surface											
9-26	NX	0	4	4	2	decomposed granite overburden	—	NX-3	—	—	"
9-27	BX	4	27.5	23.5	10	granite	—	BX-4	—	—	"
"	BX	27.5	58	28.5	18	"	—	BX-30	—	—	"

Comments: 9-22-8 hours loading equipment and truck on equipment to drilling location at Warm Springs, Silver Creek, Butte, Mont.
9-23-9 hours unloading equipment, moving and setting up on hole #1.
9-26-9 hours pulling casing, tearing down, moving and setting up on hole #2.

James Thompson

FOREMAN

Nichols & Thompson Core Drilling Co., Inc.

DRILLER'S REPORT

For Week Ending October 4 1952

For: Lee Miller + W. L. Baker

Drilling at: Warm Springs, Silver Creek

Hole No. 2 Angle Ve: 7 Drill No.

Location Sanford

Drill Runners

Day James Thompson

Swing

Night

DATE	SIZE HOLE	FROM	TO	FEET DRILLED	FEET OF CORE RECOVERED	GEOLOGY	FEET & SIZE REAMED	FEET & SIZE CASED	FEET CEMENTED	FEET OF CEMENT DRILLED	RUNNER
9-28	8X	58	79.5	31.5	18"	58 to 62 decomposed granite	—	—	—	—	Thompson
						62 to 66 ore					
						66 to 67 porphyry w/ fault material					
						67 to 68.5 same material					
						68.5 to 79.5 fault material					
End of hole #2 Total depth 79.5											

Comments: Drilling program completed October 27 1952

James Thompson

FOREMAN

Adelmann Bros.
ASSAYERS
622 IDAHO STREET
BOISE, IDAHO
PHONE BOISE [redacted] 4-1661

ASSAY CERTIFICATE

10/4 1952

Mr. Ken Heller
City

ASSAY SAMPLE NO.	OWNER'S MARK ON SAMPLE	GOLD OZ. PER TON	GOLD VALUE PER TON	SILVER OZ. PER TON	SILVER VALUE PER TON	TOTAL VALUE PER TON	PERCENTAGE OF COPPER	PERCENTAGE OF ZINC	PERCENTAGE OF LEAD
(15)	Sample #1	Trace	$ —	4 oz	$ 4.05	$ 4.05		4.5%	Trace

SILVER @ 90¢ Per Tr. Oz.
GOLD @ $ 35.00 Per Tr. Oz.

A. G. Adelmann Assayer
Per ___

Adelmann Bros.
ASSAYERS
622 IDAHO STREET
BOISE, IDAHO
PHONE B [redacted] 4-1661

ASSAY CERTIFICATE

11/2 — 1933

M Lee Fletcher

City

ASSAY SAMPLE NO.	OWNER'S MARK ON SAMPLE	GOLD OZ. PER TON	GOLD VALUE PER TON	SILVER OZ. PER TON	SILVER VALUE PER TON	TOTAL VALUE PER TON	PERCENTAGE OF COPPER	PERCENTAGE OF ZINC	PERCENTAGE OF LEAD
14	Sample #1 — Mill Hole 6'-6"	Trace	xx	4.50	4.30			4.0%	4.9%

SILVER @ 90¢ Per Tr. Oz.

GOLD @ $ 35.00 Per Tr. Oz.

A. F. Adelmann Assayer

Per [illegible]

Edward F. Fitzhugh, Jr.
Mining Geologist
Boise, Idaho

COPY

RECEIVED
OCT 27 1952

REPORT

on

WARM SPRINGS MINING PROPERTY

by

Edward F. Fitzhugh, Jr.

Sept. 29, 1939.

Edward F. Fitzhugh, Jr.
Mining Geologist
Boise, Idaho

September 29, 1939

Mr. L. S. Heller,
Boise, Idaho

Dear Sir:

I submit herewith my report on the Warm Springs mining property, Valley County, Idaho. This report is based on my examination of the ground Sept. 23, 1939, on which examination you accompanied me.

The examination was directed principally toward geological features bearing on the ore occurrence and the commercial possibilities connected therewith. Operating features are not considered herein in great detail, as the present status of the property calls for attention to the ore possibilities, rather than to the precise details of operation.

As you know, I have no present or contemplated financial interest in the property or its operation.

Respectfully submitted,

/s/ Edward F. Fitzhugh, Jr.

EFF/s

THE WARM SPRINGS MINING
PROPERTY.
* * *

LOCATION:

The property is located in Sec. 36, T. 12 N., R. 5 E., Boise Meridian, on Silver Creek, a tributary of the Middle Fork of the Payette River. It is approximately 30 miles by auto road from Banks, Idaho, the nearest railroad point.

OPERATING CONDITIONS:

The property is accessible by auto road, and a new water-grade road up Silver Creek from the Middle Fork of the Payette is contemplated by the Forest Service. The present road would be closed to auto and truck travel for some four and a half months in winter, but after the new road is completed, year-around truck travel should be possible with relatively small expense for road clearing.

There is an ample supply of good mining timber at hand for any conceivable operations. Mill water is abundant, and there are fine mill and camp sites. Living quarters suitable for a small exploration and development crew are on the ground. Sites for developing hydroelectric power are nearby, but the decision of whether to develop these or to install diesel power should await the results of further mine development.

Practically all mining operations would have to be through a shaft or shafts. While this feature adds somewhat to the cost of development and mining — as compared with tunnel operations — it is not a serious drawback.

An inflow of between 100 and 200 gal. per. minute of warm water was encountered in the shaft (No. 4) with the most substantial ore showing, and all mining operations in this immediate vicinity will have to contend with this obstacle. It appears highly probable, however, that this water can be excluded from the mine workings if they do not come within 150 ft. of the warm spring zone.

Apart from the warm water just mentioned, there

are no apparent operating obstacles of significance.

GEOLOGY:

The property lies well within the boundaries of the Idaho granite batholith. Both walls of the vein, where exposed, are granite, and no other rock was observed in close proximity to the vein. There are, however, acid igneous dikes and pegmatite derivatives of the granite in the general vicinity.

The vein occupies a strong fault fissure striking approximately N. 25° E. and dipping 70°- 77° SE. The accompanying sketch map shows the vein and mine workings.

Ore is exposed in Shaft No. 4 at a depth of 19 ft., with a width of 10 in. - 14 in. Here the total vein width is approximately two feet, the balance being gouge. This was the only showing of ore in place accessible for study at the time of my examination. Surface trenches would strongly indicate, however, that this ore continues at least 100 ft. NE. Unfortunately, these trenches are flooded by the warm springs.

To the southwest, it appears that the vein widens rapidly and that the metallic mineralization decreases. At Shaft No. 1 (inaccessible owing to water which does not appear to be related to the warm springs) the vein at the collar is exposed for a width of eight feet, and since the foot wall has not been uncovered the total width here is unknown.

At shaft No. 1 there are three streaks of quartz near the hanging wall. These show evidence of leaching at the surface, so that any assays would not be representative of what they contain at depth. The character of the quartz, however, indicates that as originally deposited it contained decidedly less metallic mineralization than the ore at shaft No. 4.

A sample of the leached quartz and intervening vein material at the collar of shaft No. 1, across a width of 4.5 ft., assayed 0.01 oz. gold and 2.2 oz. silver per ton.

Scattered material in the dump of shaft No. 1

shows unleached metallic mineralization, indicating that the shaft, which is approximately 70 ft. deep, got below the zone of oxidation and leaching wherein the metallic minerals were dissolved out of the rock by ground water. In spite of this, the general inference is that the vein, to the depth explored, is hardly of commercial quality at this point.

The ore at and nearby shaft No. 4 is a rather heavy mixture of lead, zinc, and silver sulfides in a quartz gangue. A general sample of ore on the dump of this shaft, entirely similar to that seen in place in the shaft, assayed:

			$ per ton
Gold	0.03 oz.	@$35.00	1.05
Silver	34.8 oz.	@ 0.71	24.71
Lead	15.4 %	@ 0.05	15.40
Zinc	20.5 %	@ 0.06	24.60
		Total gross value	$ 65.76

It should be borne in mind that these values are totals and make no allowance for metallurgical losses or smelter discounts.

The fact that this ore lies close to a warm spring might lead to the supposition that the ore was deposited by the spring waters and is consequently quite shallow. The spring waters have prevented oxidation and leaching, so that the unaltered ore extends practically to the surface here, but the ore is not at all typical of shallow spring deposits. There is no crystallized banding, amethystine quartz, travertine or other indication of a typical hot spring deposit. The ore at and near the surface has some incurstations and veinlets of chalcedonic silica derived from the warm spring, but this is definitely of a much later age than the ore minerals.

Thus it is quite safe to assume that the ore was deposited long since by ascending magmatic waters which bore no direct relationship to the present warm springs.

The character of the wall rock alteration indicates that the ore was deposited under moderate conditions of temperature and pressure. Some sericite and epidote were developed in the walls. This makes it improbable that the ore will extend to very great depths, but it is reasonable to expect mineralization of much the same character for several hundred feet below the present surface. There may be a gradual increase in

zinc and a corresponding decrease of lead and silver with depth, but such changes should not be abrupt or disconcerting.

METALLURGY:

While I have made no metallurgical tests of this ore, it is altogether similar to ore that is being milled successfully by selective flotation in many camps. It is safe to assume that the Warm Springs ore can be treated easily and inexpensively by this process.

CONCLUSION:

By an unfortunate coincidence, the known ore can be mined only with great difficulty and probably at no profit. This is because of the warm spring in the immediate vicnity and the pumping problem which it imposes. Under exceptionally high metal markets the income might support this pumping, but such favorable metal prices can hardly be anticipated.

The character and grade of the ore, however, are decidedly attractive. The vein structure in which the ore occurs is strong. There is a good expectation that another ore body or bodies, similar to the one now exposed, exist within this vein. These may lie either to the northeast or to the southwest along the course of the vein. Any other body of ore of this character would not have to be large to yield a profit.

Exploration directed toward encountering such ore is certainly justified.

RECOMMENDATIONS:

As the first step in the exploration of the vein, I recommend intermittent trenches through the soil to bedrock, both to the northeast and to the southwest along the course of the vein. Even though these may encounter only leached, impoverished ore, such a procedure should enable you to determine the character of the vein extensions at small cost and to establish the most advantageous site for underground development.

Between the time of my examination and the writing of this report Mr. Wade M. Dale, mining engineer, made a magnetometer survey of the area using a Wilson Horizontal Intensity instrument. While his survey was un-

able to distinguish between commercial and uncommercial zones within the vein, it did show indications of a vein to the East of the known vein. A bit of prospecting to establish the character of this potential vein is also recommended.

Respectfully submitted,

/s/ Edward F. Fitzhugh, Jr.

EFF/s

COPY COPY

REPORT

ON

GEOPHYSICAL SURVEY OF WARM SPRINGS MINING PROPERTY

BY

WADE M. DALE

SEPT. 26, 1939

October 16, 1939

Mr. L. S. Heller, Sec. & Tres.

Warm Springs Lode Mining Corp.

Boise, Idaho

Dear Sir:

Pursuant to your request, I have carefully examined the Warm Springs Mining property, spending two days, from Sept. 25th to Sept. 26th on the ground and herewith submit my report thereon.

The purpose of the examination was to further substantiate indications of new ore bodies and determine the extent and manner of prospecting the same.

CONCLUSIONS:

The time taken to thoroughly analyse data has covered several days, work has been checked and results have been gratifying.

It is my opinion that when actual trenching operations commence, tonnage far in excess of estimates given thus far will be developed.

When it is considered that a cross fracture on the known vein thrusts into an undeveloped area adjacent to a highly mineralised vein, with strong magnetic anomalies, (variation of 420 Gammas) and main ore shoot continuing persistently with depth and retains values, the opportunities offered for the finding of large valuable ore bodies are most promising. Together with the prevailing physical conditions, resolves the whole proposition into a most attractive and profitable mining venture.

GEOPHYSIC:

An analysis of the geomagnetic graph, showing the relative magnetic intensities, indicates a greater fracturing in the area south and east of the present vein.

With the present vein continuing at a 75° dip, there is an indicated depth of oxidization of over 250 ft. at the No. 4 shaft and a greater depth towards the south.

ECONOMIC AND PHYSICAL GEOLOGY

The drainage of static and magma waters is concentrated at the No. 4 shaft, providing an ideal supply of mill water. It is this feature that will make year around operation attractive.

Note: Some mills have to heat their water to obtain economical extraction during the cold weather, entailing an additional milling cost of 20-25 cents per ton, but an increase of 10-15% profit.

The river not over 400 ft. away insures a good supply of water year around and an attractive source of cheap power. There is enough timber for many years of operation.

GEOLOGY

The granite batholith forms a wide and deep strata with little variation in character. The general assumption is that faulting was caused by shrinkage and flow-zone movement. This would indicate magmatic impregnation and slow cooling of intrusive magma, carrying the values from great depths.

The fault fissure of the main vein is intersected by a similar cross fault striking perpendicular to main vein. The characteristics of fissure veins always demand crosscutting in the early stages of development due to their habit of sheeting

intrusively and extrusively forming parallel veins and increased tonnage with replacement of wall rock.

Knowing that the indications are favorable for no change in formation in depth, experience shows that fissure veins may be expected to have a depth equal to their strike length. This rule depends largely on the depth erosion.

RECOMMENDATIONS

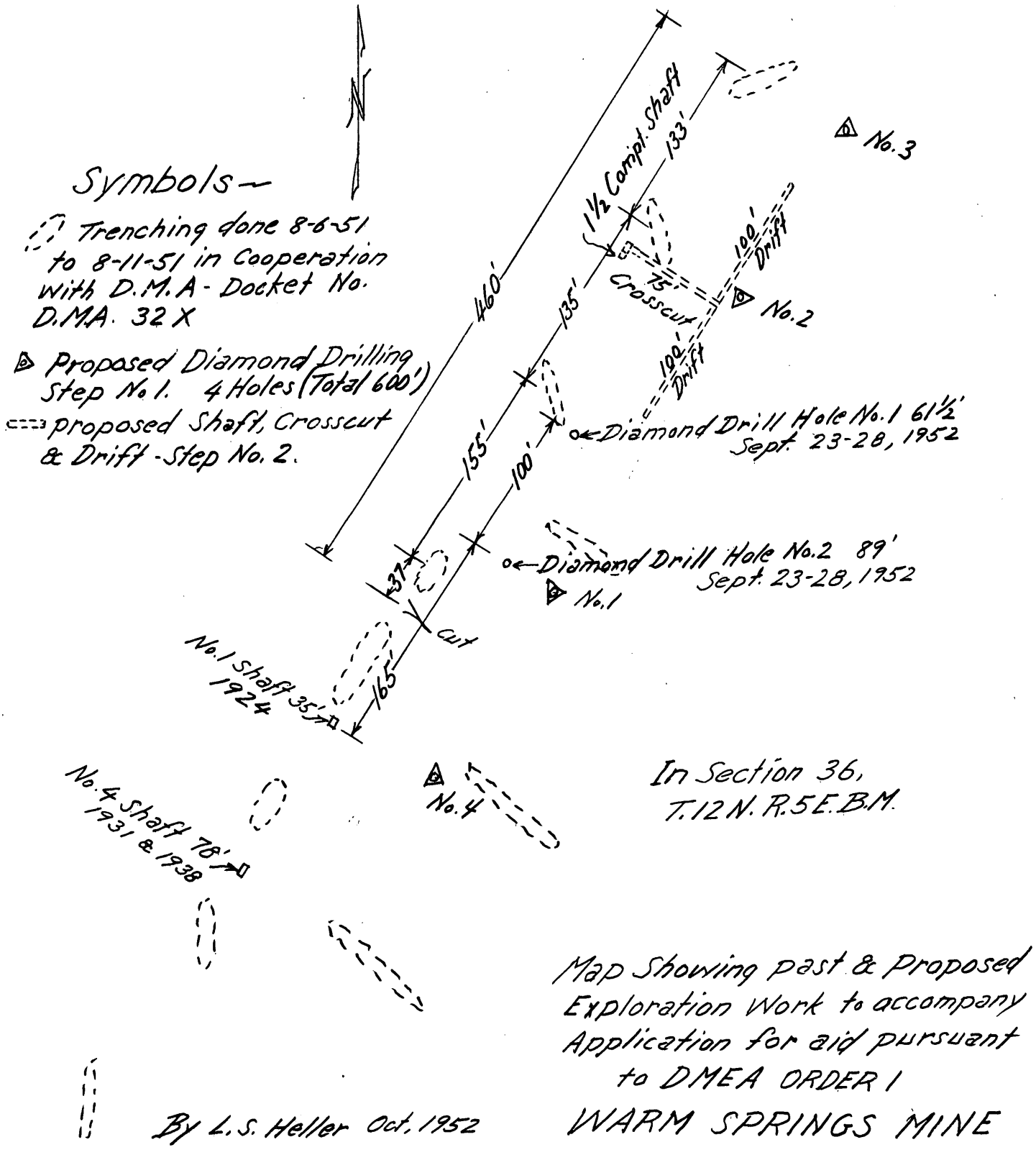
Trench the surveyed area as indicated on graphic sheet. Be sure to go to bed rock and pan carefully. Any abrupt drop in the general contour of bed rock should be excavated and proved to unaltered zone.

New shaft sites should be placed in higher contour level to avoid static waters.

Respectfully submitted,

/s/ Wade M. Dale

DMEA-2795



Map Showing past & Proposed Exploration Work to accompany Application for aid pursuant to DMEA ORDER 1

WARM SPRINGS MINE

By L. S. Heller Oct. 1952

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DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
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