DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

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DMA Docket No. 2981

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FILE COPY
SURNAME:

Yesterday

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

MAY 29 1953

N.S. in R. & R.

Hon. Mike Mansfield
United States Senate
Washington 25, D. C.

Re: DMEA-2981 (Uranium)
Sanford R. Davis
Boulder Mercury Group
Jefferson County, Montana

My dear Senator Mansfield:

This is with reference to your letter of May 19, with which you enclosed a letter received from Mr. Sanford R. Davis, dated May 15, 1953. You requested that I comment further regarding the subject application.

As stated in Mr. Davis' letter, his application was denied by our letter to him of May 11. You will recall that, concurrent with this notice to the operator, I advised you of the decision which had been reached and briefly outlined the basis for the action taken. My letter to you also made reference to a conflict which existed regarding the ownership of the mineral rights of the Boulder Mercury Group of claims, since we had received two applications involving the identical ground.

We have not heard directly from Mr. Davis since his application was denied; however, his letter to you raises two points. In the first place, he cannot understand how our decision to deny his application was reached so quickly, and he infers that the case might have been considered hurriedly because he has no personal knowledge that a field examination of the property was made. Secondly, he feels that, since funds were approved to explore the adjoining Free Enterprise Group, the Boulder Mercury Group should be accorded the same treatment. I shall endeavor to clear these two points.

The field report on the Boulder Mercury Group was first requested by DMEA in connection with the conflicting application mentioned above, which explains why Mr. Davis was not contacted by the Field Team. The DMEA already had considerable technical information about the property resulting from a previous application which was investigated and denied by the Defense Minerals Administration in 1951. Subsequent to that time, exploratory work was undertaken with private capital and 300 feet of adit was driven to intersect a vein which was visible on the surface. Members of the DMEA Field Team and the Atomic Energy Commission re-examined the property after this work was done and have concluded that no additional evidence resulted to indicate the possibility of finding a uranium deposit.

The DMEA entered into a contract with the Elkhorn Mining Company on August 16, 1951, to do a limited amount of exploration work on the Free Enterprise Group, which adjoins Mr. Davis' property. The contract was terminated on April 30, 1952, after an expenditure of approximately $22,511, of which the Government contributed 90 percent.

Before a contract was entered into with the Elkhorn Mining Company, considerable work had been done on the property by a private company which deepened the 85-foot shaft to the 150-foot level and drove some 564 feet of drifts, with negative results. The justification for entering into a contract to do further work on this property was based on the existence of some radioactive material which was found on the dump of a prospect shaft on the property. Under the DMEA contract some 342 feet of drifting was done, together with about 1400 feet of diamond drilling. The work failed to uncover significant amounts of uranium mineralization and, consequently, no certificate of discovery will be issued as a result of the rather extensive work that has been performed on the Free Enterprise Group of claims.

In the light of all the information which the Government now has on the Boulder Mercury Group and the adjoining property, it is our opinion that all reasonable and known objectives have been explored, and that neither property shows promise of yielding material of acceptable grade and quantity to justify Government participation for further exploratory work.

I am returning Mr. Davis' letter of May 15, as requested.

Sincerely yours,

C. O. Mittendorf (fw)

Administrator

Enclosure

EWEllis/COMittendorf/db/fw

cc: Admr Reading File
Mails & Files
H. D. Keiser, Rm. 3641
A. P. Butler, Jr., Rm. 3206 GSA
E. W. Ellis
DMEA Field Team, Region II (2)
C. O. Mittendorf

ALEXANDER WILEY, WIS., CHAIRMAN
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FRANCIS O. WILCOX, CHIEF OF STAFF
JULIUS N. CAHN, COUNSEL

United States Senate

COMMITTEE ON FOREIGN RELATIONS

May 19, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 20 1953

C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Dear Mr. Mittendorf:

With reference to your letter of May 11, regarding Docket No. DMEA-2981 (Uranium), I am enclosing herewith reply I have received from Mr. Sanford R. Davis. I would appreciate hearing from you further concerning this application.

Thanking you and with best personal wishes, I am

Sincerely yours,

Mike Mansfield

Enclosure

COPY

Boulder Montana,
Box 69
May 16, 1953

Hon. Mike Mansfield
United States Senator
Senate Office Bldg.,
Washington 25, D. C.

Re: Docket No. DMEA-2981
Boulder Mercury Group (Uranium)
Jefferson County Mont.

Dear Senator Mansfield:

I am in receipt of a letter dated May 11-th., signed by Mr. C.O.Mittendorf as Administrator, a copy of which is attached hereto for your information and in which (par. 3) in the last line thereof says "advise that your application for exploration work is denied".

It is hard to understand the very quick denial for this project in that; firstly, so far as I have been informed, there has been no examination of this propoerty under consideration by any of the Governmental agencies, at least none have consulted me as to such an examination.

Again in view of the fact that an exploration loan has here-to-fore been granted to explore in the Free Enterprise group and which property is adjoining and contigious to the Boulder Mercury Group. I am quite sure that the Boulder Mercury Group should be accorded the same exploration privilege as that accorded the Free Enterprise especially in view of the reports covering the Boulder Mercury properties and which indicate that the main vein lies in the latter group.

Taking the above into consideration, Mike, it will be appreciated if you will make any or additional effort possible to get a reconsideration and reversal of the DMEA ruling.

Thanking you Mike for the interest you have shown and accorded me in this matter and with personal regards I am

Sincerely yours,

(signed) Sanford R. Davis
Box 69
Boulder, Montana.

700
FILE COPY
SURNAME:

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

Ellis
Kimball
Hedges
Gilbridge
Fehrenbach
Mittendorf

Mr. Lanford A. Davis
Post Office Box 69
Boulder, Montana

Re: Docket No. A-2971 (Premium)
Butler Mercury Group
Jefferson County, Montana

Dear Mr. Davis:

Reference is made to your application for Government aid on the proposed capitalized project estimated to cost $12,500.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding material of acceptable grade and in quantities that will significantly improve the mineral supply position for the national defense program.

A careful study of your application and data available in this office, and an examination of the property considered reveal that the probability of disclosing minable reserves by your proposed exploration program is not believed to be sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

If future work on your property reveals evidence which could materially alter this opinion, please be assured we will be glad to consider a new application.

Sincerely yours,

C. O. Mittendorf (for)
Administrator

J. C. 5/11/53

AMEllis/gla
5-8-53
cc to: Adm. Reading File
Operating Committee
Docket
Messrs. H.D.Keiser, Rm. 3641
S.F.Butler, Jr., Rm. 3206 GSA
Ellis
DMA Field Team, Region II (2)

700
FILE COPY
SURNAME:

Ellis
Kimball
Hedges
Lethridge

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

Hon. Mike Mansfield
United States Senate
Washington 25, D. C.

MAY 1 1 1953

Re: Docket No. DMEA-2981 (Uranium)
Sanford M. Davis
Boulder Mercury Group
Jefferson County, Montana

My dear Senator Mansfield:

This will acknowledge receipt of your letter of May 4, with which you enclosed a copy of a letter from Mr. Sanford M. Davis, dated May 1, 1953.

The application and property have been thoroughly examined by Government engineers and geologists. As a result of these investigations it was decided that the property does not show sufficient promise as to justify Government participation. Accordingly, we were forced to deny the application and we are so informing Mr. Davis.

In our letter to you of April 23 we stated that we also had an application on this same property from another applicant. This application is filed under the name of Uranium Star Mining Company (Docket No. DMEA-2980) and is signed by Mr. J. I. Mistle as a general partner. This is the same Mr. Mistle as mentioned in Mr. Davis' letter to you dated May 1, 1953. In our letter to you of April 23, we stated that it would be necessary to investigate which applicant held the appropriate interest in the land before arriving at a decision on the two applications. However, this now becomes unnecessary since both applications are to be denied based on our investigations.

We are not returning Mr. Davis' letter since your office reports that you have a copy of said letter in your files.

Sincerely yours,

C. O. Mittendorf (for)
Administrator

J. C. 5/11/53

DMEEllis/gla
cc to: Adm. Reading File
Docket DMEA-2981
DMEA-2980
Messrs. H.D.Keiser, Rm. 3641
A.P.Butler, Jr., Rm.3206 GSA Bldg.
Ellis
DMEA Field Team, Region II (2)

5/6/53 gla

ALEXANDER WILEY, WIS., CHAIRMAN
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MIKE MANSFIELD, MONT.

FRANCIS O. WILCOX, CHIEF OF STAFF
JULIUS N. CAHN, COUNSEL

United States Senate

COMMITTEE ON FOREIGN RELATIONS

May 4, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 5 1953

C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

DMEA 2981

Dear Mr. Mittendorf:

With reference to your letter of April 23 concerning the application of Sanford R. Davis, of Jefferson County, Montana (Docket No. DMEA-2981 (Uranium)), will say I am enclosing herewith letter I have just received from Mr. Davis. I would appreciate your returning his letter after it has served its purpose.*

Thanking you and with best personal wishes, I am

Sincerely yours,

Mike Mansfield

Enclosure

* Called Mr. Sullivan, Sen. Mansfield's office, to advise Mr. Mansfield the original copy of Mr. Davis' letter to Hoover since they have a copy. He said we would not return the Davis letter. This will save copying!

Box 69 Boulder, Montana.
May 1, 1953.

Hon. Mike Mansfield,
United States Senate
Washington 25, D.C.

Re: Docket No. DMEA-2981 (Uranium)
Sanford R. Davis
Boulder Mercury Group
Jefferson County Montana.

Dear Senator Mansfield :

I am in receipt of your letter of the 25th ult. relative to the above named property and have noted the contents of Administrator Mittendorph of the DMEA, which letter I am herewith returning to you for your file.

As set out in the Administrators letter to you, I registered the application form with all the copies of all papers relative to the title of the group of claims owned by son (from whom I have power of Attorney) and myself.

However; it was evidently overlooked, that a former lease on this group was or had been given to a group of persons headed by Mr. John I Listle, formerly of Kalispell and later of Los Angeles, Calif. This lease had expired for non compliance of its terms and at a meeting between Mr. Listle and myself, both of course being represented by attorneys, early in this year as will appear from the copy of the papers which accompany and are made a part of my application, I agreed that on behalf of my son and myself that an extension would be made to Mr. Listle giving him until June 1, 1953 to commence work on the tunnel now under development on Boulder Mercury Claims Nos. 2 & 5, and a part of the Boulder Mercury Group. It is evident that some one in making another application for a loan on this group has not disclosed that the extension of the voided lease was given to Mr. Listle only with the understanding that work would be started from the face of thi s present tunnel as set out in my application papers and continuously prosecuted commencing work not later than June 1.

In my application and made a part thereof, is a full and complete copy of the agreement made with Mr. Listle and which papers are now held in escrow with Judge Ralph Anderson of Helena Montana and will be delivered to me in case that Mr. Listle does not complete his part of the agreement.

It was my intention, in making this extension, to give Mr. Listle a chance to go ahead and at the same time he agreed as will be shown by the copies in my application made in quadruplicate, that I should go ahea d and make the application for the loan as will appear in the fully set out undertaking in my application. I hope that the Administrator will take particular notice of the agreements covering the title as shown in my application.

Thank you Mike for the special interest taken in this matter and I am enclosing an extra carbon of this letter for your use in case that it is required.

Sincerely,

Sanford R. Davis

Sanford R. Davis,
Box 69
Boulder, Montana/

2 enclosures.

Mrs Sanford R. Davis has injured his arm and temporarily is unable to sign any better at present.
Mrs. Sanford R. (Vivian) Davis.

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

May 8, 1953

SUMMARY OF PROPOSED PROJECT

Docket No. DMEA-2981
Applicant: Sanford R. Davis,
Post Office Box 69, Boulder, Montana

Subject: Denial of application

Commodity: Uranium
Location of property: Boulder Mercury Group,
Jefferson County, Montana Region II
Amount of application: $12,500.00
Date of application: April 7, 1953

Outline of project: For extension of a tunnel being driven on the Boulder-Mercury Group of mining claims, and to crosscut a large vein crossing the group easterly-westerly (Essentially the same exploration that is proposed by Applicant in Docket No. DMEA-2980).

Field Team Report: See Field Team report in Docket No. DMEA-2980 by George Becraft, U. S. Geological Survey, dated April 6, 1953.

Recommendation: Denial.

Commodity Members' Comments:

Bureau of Mines: H. D. Keiser, dated April 15 and May 6, 1953, the latter recommending denial of both applications. His April 15 memorandum calls attention to fact that each of the two applicants involved in this docket and DMEA-2980 lists the same identical land.

Geological Survey: Arthur P. Butler, Jr., April 17, 1953

Information furnished by the Field Team with respect to Docket No. DMEA-2980 and their recommendation that Government Assistance for exploration be denied are likewise entirely applicable to this application. Recommends denial.

Rare & Misc. Metals Div. Engineer: Ernest Wm. Ellis

Comments: None. Denial letter prepared on basis of above recommendations.

Ernest Wm. Ellis

Ernest Wm. Ellis

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

May 6, 1953

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4640

From: H. B. Keiser, Bureau of Mines Member
Uranium Commodity Committee

Subject: Field Team Report, DMEA Docket No. 2980, Uranium Star Mining Co., and DMEA Docket 2981, Sanford R. Davis.

I have reviewed the subject report and applications and discussed them with Arthur P. Butler, Geological Survey Member, and Joseph O. Hosted, Representative of the Atomic Energy Commission.

It is recommended that the field team report be approved, and that the application for an exploration loan be denied.

H. D. Keiser

Attachments

4/23/53 gla

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : E. Wm. Ellis, DMEA Member
Uranium Commodity Committee

DATE: April 17, 1953

FROM : Arthur P. Butler, Jr., USGS Member, Uranium Commodity Committee

SUBJECT: DMEA Docket 2981 (Uranium), C. R. Davis and S. R. Davis, applicants, Boulder, Montana, Boulder and Mercury claim groups, Sec. 20, T. 6 N., R. 4 W., Jefferson County, Montana.

The applicants are owners of the property identified in the subject above, and this application is for essentially the same exploration that is proposed for the same property by the lessee in DMEA Docket 2980.

Information furnished by the Field Team with respect to DMEA Docket 2980 and their recommendation that Government assistance for exploration be denied are likewise entirely applicable to this application.

I recommend that this application be denied.

Arthur P. Butler, Jr.

Arthur P. Butler, Jr.

Copy to: E. Wm. Ellis (2)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
APR 23 1953

IN REPLY REFER TO:

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

E. Wm. Ellis, DMEA Member
Uranium Commodity Committee
Arthur P. Butler, Jr., USGS Member, Uranium Commodity Committee

April 17, 1953

DMEA Docket 2981 (Uranium), C. R. Davis and S. R. Davis, applicants, Boulder, Montana, Boulder and Mercury claim groups, Sec. 20, T. 6 N., R. 4 W., Jefferson County, Montana.

The applicants are owners of the property identified in the subject above, and this application is for essentially the same exploration that is proposed for the same property by the lessee in DMEA Docket 2980.

Information furnished by the Field Team with respect to DMEA Docket 2980 and their recommendation that Government assistance for exploration be denied are likewise entirely applicable to this application.

I recommend that this application be denied.

Arthur P. Butler, Jr.

Copy to: E. Wm. Ellis (2)

IN REPLY REFER TO:

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

E. Wm. Ellis, DMEA Member
Uranium Commodity Committee
Arthur P. Butler, Jr., USGS Member, Uranium Commodity Committee

April 17, 1953

DMEA Docket 2981 (Uranium), C. R. Davis and S. R. Davis, applicants, Boulder, Montana, Boulder and Mercury claim groups, Sec. 20, T. 6 N., R. 4 W., Jefferson County, Montana.

The applicants are owners of the property identified in the subject above, and this application is for essentially the same exploration that is proposed for the same property by the lessee in DMEA Docket 2980.

Information furnished by the Field Team with respect to DMEA Docket 2980 and their recommendation that Government assistance for exploration be denied are likewise entirely applicable to this application.

I recommend that this application be denied.

Arthur P. Butler, Jr.

Copy to: E. Wm. Ellis (2)

FILE COPY
SURNAME:

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

APR 23 1953

Hon. Mike Mansfield
United States Senate
Washington 25, D. C.

Re: Docket No. DMEA-2951 (Uranium)
Sanford R. Davis
Boulder Mercury Group
Jefferson County, Montana

My dear Senator Mansfield:

This will acknowledge receipt of your letter of April 15, 1953, with which you enclosed a letter dated April 7, from Mr. Sanford R. Davis, together with a copy of his letter which accompanied the filing of an application with this Agency.

For your information, Mr. Davis' application is dated April 7, 1953, and covers a proposed exploration project on the above-named property estimated to cost $12,500.00. The application was received by this Agency on April 14, was docketed under the number shown above and an acknowledgement of its receipt was forwarded to Mr. Davis on April 15.

Under the procedures established for the processing of such applications, it is necessary for the application to be reviewed by the respective commodity group members of the Geological Survey and the Bureau of Mines, before the merits of the application can be properly evaluated.

Simultaneously with receipt of Mr. Davis' application, which was filed directly with this office, we received, through our Regional Office in Spokane, an application submitted by another individual on the same property. It will, therefore, be necessary for us to investigate which applicant holds appropriate interest in the land involved in order to determine which application merits consideration.

copy in Docket DMEA-2980

We will advise you of the action taken with respect to Mr. Davis' application.

The enclosures forwarded with your letter are returned herewith, as you requested.

S.N. 4/23/53

Sincerely yours,

M. D. Mitten
(fw)
Administrator

GLAult/EWEllis/eef
4/23/53
cc to: Adm. Read Files
Docket
Messrs. HDKeiser, RM.3641
APButler, Rm.3206
Ellis
DMEA Field Team, Reg.II(2)

Enclosures 2

4/17/53 gla

ALEXANDER WILEY, WIS., CHAIRMAN
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THEODORE FRANCIS GREEN, R. I.
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JOHN J. SPARKMAN, ALA.
GUY M. GILLETTE, IOWA
HUBERT H. HUMPHREY, MINN.
MIKE MANSFIELD, MONT.

FRANCIS O. WILCOX, CHIEF OF STAFF
JULIUS N. CAHN, COUNSEL

United States Senate

COMMITTEE ON FOREIGN RELATIONS

April 15, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 16 1953

C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Dear Mr. Mittendorf:

In reference to your letter of March 6, will say I am enclosing herewith letter I have received from Mr. Sanford R. Davis. I would appreciate hearing from you as to what action is being taken on this application, and will you please return the enclosures for my files.

Thanking you and with best personal wishes, I am

Sincerely yours,

Mike Mansfield

Enclosure

Boulder, Montana
April 7, 1953.

Hon. Mike Mansfield
US Senator for Montana.
United States Senate Office Bldg.
Washington D.C.

Dear Senator:-

I am enclosing you a copy of the covering letter written to Admr. Mittendorf of the DMEA. enclosing my formal application for a DMEA loan in accord with your letter and enclosures to Mr. M.R.Copper, Consulting Geologist of Butte last March.

The application is made for the extension of a tunnel being driven on the Boulder-Mercury Group of Mining Claims in S. 20, Twp. 6N., Rge. 4W. MPM and to crosscut a large vein crossing the group easterly-westerly and examinations indicate uranium bearing ores.

Thank you, Senator, for your attention given this matter.

Yours very truly,

/s/ Sanford R. Davis

Sanford R. Davis,
Postoffice Box 69
Boulder, Montana

CC attached.

c
o
p
y

(A copy of the attachment to this letter was not made, since the file contains the original letter addressed to Hon. C.O.Mittendorf, dated April 7, 1953.)

April 15, 1953

Mr. Ellis:

I thought it was an unusual circumstance this morning when we received these two dockets, for it was very evident that two separate applications have been presented on the very same claims. Thought you might be interested in looking them over.

Uranium Star Mining Company (Lessee with option to purchase) (DMEA-2980), as you will see, came to us through Region II, together with the FT's recommendations that it be denied. That report has been sent to the Operating Committee, and will then clear with the commodity members for comments.

Davis, Sanford R. (DMEA-2981) who claims to be the owner by location of unpatented claims, sent his application directly to Washington, without going through the Regional Office. Copies of this application have been sent to the commodity members.

Of course, the first application will undoubtedly be denied, and the second one may be, too, but I thought I'd bring this to your attention.

gla

Mr. Keiser's memo of this date received from USBM confirms the fact that these two applications cover the same identical land.

4/17/53 gla

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

April 15, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 16 1953

Memorandum

To: Ernest William Ellis, DMEA Member
Uranium Commodity Committee, Room 4640

From: H. D. Keiser, Bureau of Mines Member
Uranium Commodity Committee

Subject: DMEA Docket No. 2980, Uranium Star Mining Co., c/o Leo J. Kottas, Union Bank Building, Helena, Montana.
DMEA Docket No. 2981, Sanford R. Davis, P. O. Box 69, Boulder, Montana.

copy filed in DMEA-2980

Each of the two applications involved under the two subject dockets lists the same identical land.

It is suggested that action be taken to determine which applicant holds appropriate interest in the land to warrant consideration of his application.

H. D. Keiser

H. D. Keiser

~~5/15~~

April 15, 1953

Mr. Sanford R. Davis
Post Office Box 69
Boulder, Montana

Subject: DMEA-2981
Re: Exploration Assistance
Boulder Mercury Group

My dear Mr. Davis:

The receipt of your application dated April 7, 1953 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-2981 and referred to the Rare and Miscellaneous Metals Division.

Kindly refer to DMEA-2981 in any future correspondence relating to your application.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams, Chief
Operations Control and
Statistics Division

Postoffice Box 69
Boulder, Montana.

April 7th 1953.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 14 1953

Hon. C.O.Mittendorf
Administrator
Defense Minerals Exploration Administration
Washington, D.C.

Re letter to Sen. Mansfield
March 6th.

Sir :-

With this letter I am enclosing my application for a Defense Minerals Exploration Administration loan designed to complete an extension of a tunnel being driven to expedite the discovery and recovery of uranium bearing ores.

The application, made in quadruplicate, together with all papers made also in quadruplicate, covers the proposed tunnel extension on the Boulder-Mercury group of mining claims located in section 20 Township 6N., Rge. 4W. MPM— Jefferson County, Mont.

I trust that all papers are in form and that the examination covering this application will be made as soon as possible and the loan recommended.

Thank you.

Enclosure
Quadruplicate
Applications.

Yours very truly,

Sanford R. Davis

Sanford R. Davis
Boulder, Montana.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 14 1953

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-2981
Metal or Mineral
Date Received 4-14-53
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: Sanford R. Davis
Postoffice Box 69
Boulder, Montana.

(*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 Boulder-Mercury; Boulder-Mercury #2; Boulder-Mercury #3; Boulder-Mercury #4; Boulder-Mercury #5; Mercury Connection; East Mercury #1; & East Mercury #2. Lode Mining Claims and for other particular descriptions etc. see attached papers under #3 item.

(*b*) State any mine name by which the property is known. Boulder-Mercury Group.

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

(*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. See attached papers under item 3 par. (f)

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 att. papers.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. No production

(*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. Copies of reports and excerpts from others.

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

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

16-50851-1

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore for Uranium bearing ores toward production of U_3O_8

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

☒ 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 April 7th, 1952

Clyde R. Davis
(Applicant)

By Sanford R. Davis
Atty in fact

Sanford R. Davis

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

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Items in the following Parts are referred to by item number and paragraph number of the Data Sheet of this application, as shown below.

Item No. 1 in (a) Name Samuel J. Davis
PO Box 66
Bozeman, Montana
Not Applicable

(b) [illegible]

Item No. 2 [illegible]

Item No. 2a (a) [illegible]

(b) [illegible]
(c) [illegible]
(d) [illegible]
(e) [illegible]
(f) [illegible]

Item No. 3 (a) [illegible]

(b) [illegible]

(c) [illegible]

(d) [illegible]

COPY

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Special Engr. No. 6
Estimate of costs.

(d) Estimate of costs for driving 300' extension to present tunnel on Boulder Canyon Proj. 2 & 3.

300' @ $ 25.00 per foot $ 7500.00
200' laterals 20.00 $ 4000.00

(e) Supervision, engineering, $ —
delays etc. $ —

(a) Included in contract price.
(b) Owned by contractor.
(c) No rehabilitation necessary.
Contractor furnished all materials necessary or required.
(f) No new buildings necessary at this time. No fixed improvements to be made at present time.
(g) Contractor furnishes all labor, costs including all wages, workmen's compensation insurance, payroll taxes, bond, and every expense except the supervision of progress required by the contract and required by law.
(h) Miscellaneous expenses not specified in above contingency costs. $ —

Totals. $12500.00

Item 7 (a) Yes on progress payments by share as required by law.
(b) By money or [illegible]

COPY

AGREEMENT

THIS AGREEMENT made and entered into this 20th., day of February, 1953, by and between J.I.Listle, party of the first part, and Sanford R. Davis and Clyde R. Davis, parties of the second part, WITNESSETH

WHEREAS, some controversy has arisen between the parties hereto as to whether the party of the first part has performed the provisions of that certain assignment made and entered into on the 5th. day of December 1950, wherein the Elkhorn Mining Company, a corporation, assigned to the party of the first part a portion of that certain lease entered into on the 23rd. day of November, 1949 between the parties of the second part and the Elk Horn Mining Company, a corporation, as to the following described property;

Name of Lode claims	Jefferson County Record Book	Page	Instrument Record No.
Boulder-Mercury	45	353	55067
Boulder-Mercury #2	45	391	56286
Boulder-Mercury #3	45	392	56287
Boulder-Mercury #4	45	393	58034
East Mercury #1	46	549	65919
East Mercury #2	46	550	65920
Mercury Connection	46	552	65922
Boulder-Mercury #5	46	551	65921

COPY

and

WHEREAS, the parties are desirous of settling said controversy, and

WHEREAS, the party of the first part has executed unto the parties of the second part an assignment of said assignment of lease and lease insofar as the above described property is concerned, NOW THEREFORE, in consideration of the premises it is mutually agreed that the said assignment executed by the party of the first part unto the parties of the second part has been delivered to Ralph J. Anderson attorney, 517 Power Block, Helena, Montana, to be by him held on the following conditions, namely: That if the party of the first part, or his assignees, commences driving the tunnel heretofore commenced on the above described property and has commenced development work by continuing the driving of said tunnel on June, 1, 1953, then escrow agent shall not deliver the said release and assignment to the parties of the second part. If the said party of the first part, or his assignees has not delivered satisfactory evidence to the escrow agent of the commencement of said development work on the first day of June, 1953, then he shall deliver said assignment and release unto the parties of the second part.

IT IS MUTUALLU AGREE that the parties of the second part may apply to any governmental agency they so desire for a loan for the development of the above described property and if such loan is made available on or before June 1, 1953 then the parties of the second part agree to make the proceeds available to the party of the first part, or his assignees, for the development of the above described property and if such funds are thus available it shall be deemed to be a performance of the obligation on the part of the party of the first part, or his assignees, and he shall commence development work within thirty (30) days after the receipt of notice of granting of such loan, or in any event by June, 1, 1953 and the party of the first part agrees to reimburse to the second parties such monays expended in the actual securing of a loan from governmental agency.

IT IS FURTHER MUTUALLY AGREED that if the party of the first part, or his assignees, continues the development work on said tunnel with reasonable dilligence until it is driven an additional three hundred feet then the said lease agreement and assignment of lease heretofore referred to shall be deemed to be in good standing and subject then to the terms and provisions thereof as now written (underscored words initialed by SRD and JIL) and the release executed herewith and h held in escrow shall immediately be returned to first party, or assigns, but if id development work does not continue with reasonable dilligence then the escrow

SANFORD R. DAVIS.

BOULDER - MONT.

agent is authorized, upon the happening of such events, to deliver said assignment and release unto the parties of the second part.

IT IS FURTHER AGREED that if at any time during this agreement or said original contract and assignment thereof to first party said first party or his assigns, should make application for government loan for purposes of developing said property that said second party or parties agree to immediately upon request sign a subordination agreement to government.

IN WITNESS WHEREOF the parties hereto have hereunto set their hands on the day a and year first above written,

Signed J. I Listle, Party of the First Part

Sigened Clyde R. Davis by S.R.Davis Attorney in Fact

Signed Sanford R. Davis
Parties of the Second Part.

~~46~~ ~~549~~ ~~65919~~
~~46~~ ~~550~~ ~~65920~~
~~46~~ ~~552~~ ~~65922~~
~~46~~ ~~551~~ ~~65921~~

COPY

State of Montana
ss.
County of Lewis and Clark

On this 24th. day of February, 1953 before me, Ralph J. Anderson, a Notary Public for the State of Montana, personally appeared J.I. Listle and Sanford R. Davis. known to me to be the same persons whose names are subscribed to the within instrument and acknowledged that they executed the same.

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

Signed Ralph J. Anderson
Notary Public for the State of Montana
residing at Helena, Montana
My commission expired Jan. 29, 1956.

(SEAL)

COPY

SANFORD R. DAVIS,
BOULDER - MONT.

COPY

RELEASE

KNOW ALL MEN BY THESE PRESENTS that the undersigned J.I.Listle, party of the first part, and Sanford R. Davis and Clyde R.Davis, paeties of the second part, WITNESSETH That for and in consideration of the sum of one dollar (1,00) paid to the party of the first part by the parties of the second part, the receipt whereof is hereby acknowledged, does hereby sell,assign, transfer and set over unto the parties of the second part that certain assignment of lease entered into on the 5th day of December, 1950, by and between the Elkhorn Mining Company, a corporation, therein called first party and J.I.Listle, second party, describing therein the following described property:

Name of Lode Claims	Jefferson County Record		
	Book	Page	Instrument No.
Boulder-Mercury	45	353	55067
Boulder-Mercury #2	45	391	56286
Boulder-Mercury #3	45	392	56287
Boulder-Mercury #4	45	393	58034
East Mercury No. 1			
East Mercury No. 2			
Mercury Connection			
Boulder-Mercury #5			

COPY

The acceptance and delivery of this instrument to the parties of the second part shall operate to release, terminate and end the said assignment of lease above mentioned and the lease on the above described property which was assigned to the party of the first part by the Elkhorn Mining Company, a corporation, which lease was dated on the 23rd. day of November, 1949, insofar as the above described lands and premises are concerned.

IN WITNESS WHEREOF THE PARTY of the first part has hereunto set his hand on this 20th day of February, 1953.

Signed John I. Listle

~~The acceptance and delivery of this instrument to the parties of the second part shall operate to release, terminate and end the said assignment of lease above mentioned and the lease on the above described property which was assigned to the party of the first part~~

State of Montana
County of Lewis and Clark ss.

On this 20th. day of February, 1953, before me Ralph J. Anderson, A Notary Public for the State of Montana, personally appeared J.I.Listle, known to me to be the same person whose name is subscribed to the within instrument, and acknowledged t that he executed the same.

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

Signed Ralph J. Anderson
Notary Public for the State of Montana
Residing at Helena, Montana.
My commission expires Jam. 29, 1956.

(Official Seal)

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SANFORD R. DAVIS
BOULDER - MONT.

COPY

M. R. COOPER
CONSULTING GEOLOGIST
BUTTE, MONT.

NATIONAL REGISTER OF SCIENTIFIC AND SPECIALIZED PERSONNEL. FORMERLY OF THE DEPARTMENT OF THE INTERIOR.

APARTMENT 3
FIRST NATIONAL BANK BUILDING
TWX-BT6

March 23, 1953

COPY

BOULDER-MERCURY GROUP
Section 20, Twp. 6N. Rge 4W
Montana Meridian Jefferson County.

GROUP

The Boulder-Mercury Group consists of the following named claims; The Boulder-Mercury; Boulder-Mercury Numbers 2-3-4-5 & Mercury Connection.

ORE

Primary and Secondary uran ium bearing ores; veins also carry gold and Silver in small amounts.

TITLE

Locations made on Public Domain, surface is subject to Taylor Grazing Act. All claims located by Sanfors R. Davis etal. of Boulder Montana.

Record of Filing Claims.

Boulder-Mercury		Jan. 14	1941	#55067	Recorded in	Book	45	Page	353
"	" No. 2	" 29	1942	#56286	"	"	" 45	"	391
"	" # 3	" 29	1942	#56287	"	"	" 45	"	392
"	" #4	" 29	1942	#58034	"	"	" 45	"	393
"	" # 5	Dec. 29	1949	# 65921	"	"	" 46	"	551
Mercury Connection		" 29	1949	#65922	"	"	" 46	"	552

MAPS

A sketch map of the claims, not made to scale; Reference also is had to a recent US Mineral Survey of the Free Enterprise Group for patent of that group which has been approved by the Surveyor General of the GLO but which application for patent has not yet been completed. The sketch map which accompanies this report shows the approximate position of the claims listed above from the ground record; the location of the tunnel adit and the open cut crosscutting the largest vein in the area.
The USGeol. Sur. also have mapped the area.

Shipping Station.

Boulder Montana on the Great Northern Railroad. Distant about 1 mile.

Roads.

Rough country road, said to be controlled by the County with a preliminary bulldozed leading to tunnel site on the claims. A hill side road must be built to connect with the county road, a low cost construction.

Elevations.

Tunnel adit on B-M Nos. 2 & 5 About 5200'

Assessmaent work.

All assessment work for the fiscal year of 1952/1953 completed.

Terrain

Rolling hills; a few scattered trees (Pinus Limbus) of no commercial value; rocky reef outcroups easterly and westerly across the groups; surface stony and covered by sage brush and range grass.

Water.

None except that which may be encountered by mining operations.

Power.

Montana Power Company high line available at about a mile.

Tunnel.

The present tunnel, the adit of which is on B-M #5 and thence into B-M #2 and designed to crosssut the large vein on B-M #2 at or about the point where the open cut shown on the sketch was constructed during the years 51/52. Distance

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M. R. COOPER
CONSULTING GEOLOGIST
BUTTE, MONT.

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APARTMENT 3
FIRST NATIONAL BANK BUILDING
TWX-BT6

COPY

from the adit to the face is 295'; size is 6' X 8'; no timbering necessary except that at the portal and its approaches.

Examination

During the month of February 1952, by the writer and an associate, an underground examination and inspection of the Free Enterprise Group on the west (at Silver Bell shaft) checking the 60'-85'- and 150' levels; small veinlets in the granite and monzonite intruded by aplite dikes and sills were observed. Checking at the Silver Bell was done with a scintillometer and with a geiger counter. Water was flowing from both east and west ends of the level (150') and appeared to be coming thrpugh drill holes and from a fault near the Silver Bell shaft. Later the same year outcrops on the Boulder-Mercury group were checked with the scintillometer and the readings were considerably higher on the surface than those taken underground on the adjoining group. Yesterday,(March 23) accompanied by the same mining engineer; another inspection was made on the Boulder-Mercury Group for the purpose of getting the approximate locations of this groups from stakes on the ground; claims not having been surveyed by a US Mineral Surveyor for patent and further to make an approximate location of the present 295' tunnel adit on Boulder-Mercury Nos. 2 & 5 claims -- for record on the sketch attached hereto . From the inspection made in this tunnel and the opencut at the crest of the hill we found that the geology of the area is approximately the same as that set out in the report of Mr. Frank R. Wicks when he reported on this group in May 1951 and need not be repeated here. We may say however, that generally it consists of a granititic block (The Boulder Batholith) with some coarse granite showing, monzonite and intrusions or flows locally called aplite which vary in thickness.

In checking the veins and outcrops, found that they generally run easterly and westerly across the group and attention was centered on the opencut at the top of the ridge through B-M #2 near discovery pit. This cut starting in solid granite walls shows a measured width of 135' of vein matter between the walls, with a depth of approximately 20' below the point of discovery. This cut was very active on the scintillometer and the tunnel started on B-M #5 near the SE corner of B-M #2 should cut the vein on B-M #2 near the westerly end of the open cut at a depth of approximately 200' when it is driven straight with the adit for another 300' from the present face of the tunnel though the distance may be less when paying ore is encountered.

The accompanying sketch , not made to scale, is only to show the relative position of the claims with reference to the large vein running across this group in an east-west direction; the map or sketch also shows the approximate location of the opencut on this vein; also marks hte present adit of the tunnel.

Briefly it is recommended that the tunnel shown on B-M #2 and #5 be extended from the present face another 300' to intercept the main or large vein and when intercepted, laterals should be run or driven at least 100' easterly and westerly from the tunnel walls, it should be driven into Nos. 3 & 4 if funds will allow. At this distance there should be amp e back, approximately 200' and should show good ore values as the inspection at the opencut indicates the possibility of a very large ore body. The contract for the tunnel extension should be let as soon as possible.

Respectfully submitted.
Signed M.R.Cooper
Consulting Geologist.

M. L. COOPER
Consulting Geologist
Butte, Mont.

[illegible] 2000' [illegible] 4 [illegible] 1 [illegible] necessary [illegible] at the portal and elsewhere.

Conclusion.

[illegible] of [illegible] life, [illegible] and [illegible] and [illegible] of the [illegible] (see Plates [illegible] and [illegible]) showing the [illegible] [illegible] [illegible]

REPORT OF EXAMINATION
BOULDER - MERCURY GROUP
LODE MINING CLAIMS
JEFFERSON COUNTY MONTANA.

COPY

By Frank R. Wicks,
Consulting Mining &
Industrial Engineer
Los Angeles, Calif.

Date of Examination May 13-16 1951 Report May 22, 1951
Prepared for Western Mines, Inc.
Name of property: Boulder-Mercury Group
Type of ores: Primary and secondary uranium minerals with considerable silver, some gold and some mercury and lead in spots.
Name of claims: Boulder-Mercury, Boulder-Mercury Nos. 2-3-4-&-5, East Mercury Nos. 1 & 2, Mercury connection.
Area: 8 Lode Mining Claims, about 145 acres. Contigious.
Location of property: One mile northerly from Boulder, Mont.
Legal Loc: A portion of section 20 T 6 N. R. 4 W. Mont. P. Mer. mostly in N½ of that section. Nearest reference point in NW Cor of Sec. 20.
Titles; Unpatented claims held by Mineral Location By Sanford R. Davis etal; subsequently leased to the Elkhorn Mining Comapny of Boulder Montana and later subsequently leased to John I. Listle of Los Angeles Calif. whose present address is _____
Lease and sub-lease carry option to purchase and provide for payment of royalties to apply in part to purchase payments.
Assessment work : Completed for current fiscal year to hold claims until June 30, 1952.
Maps: Reference maps by Wade V. Lewis is approximately correct as to location of Boulder-Mercury Group based on preliminary

Survey; The claims have not been surveyed by a U.S. Mineral Surveyor in the manner required for procurement of patent title but this is not required to maintain unpatented status. ***

Mining District; Known as the Boulder Districe, also as a part of the Elkhorn District, for which no definite boundaries have been established.

Federal Reservations: Properties are apparently outside of the Elkhorn Forest Reserve, but are subject to the provisions of the Taylor Grazing Act for cattle grazing. This does not in any way interfere with normal mining operations. No school land, railroad land or Indian (Reservation) involved except for right of way of (the) Great Northern through the lower extreme end of East Mercury Nos. 1 & 2.

Shipping point: Boulder, a station on the Great Northern Railroad ½ to 3/4 of a mile from the property. Loading track and two loading ramps at station. Railroad runs across the end of two of the claims.

Roads: Boulder is on paved U.S.Highway No. 91. Rpad to property is good, County maintained. Roads on property to reach principan working places will have to be built. involving less than a mile of hillside grading of easy construction, plus two or three culverts and a cattle guard.

Road Distances: Boulder to Helena via highway 30 miles
Boulder to Butte " " 34 "
Boulder to Salt Lake City as destination of ore shipments 300 "

Elevations:

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Elevations: At Boulder-- 4900' above sea level.
At central portion of property 5200 feet.

Terrain: Rolling hills; sparsely timbered; few rock outcrops; surface covered with range grass.

Climate: Snow and freezing weather December to March; Ordinary underground operations can be carried on throughout the year after property is equipped to do so.

Power: Nearest electric power line is about one mile away (at this report) It is understood that power will be available when wanted.

Water; None on the property now; water for mining purposes can be developed by shallow well in main canyon when desired. Underground operations will likely be dry above 5000' elevation. The properties are in the watershed of the Boulder River which flows southeasterly through the county.

Timber: None on the property, can be purchased as green mine dimension timber or logs from nearby.

Labor Usually ample and good in this area. Mostly American native miners living in this vicinity.

Camp Eqpt.: None now and none required.

Mine Eqpt. : None.

Operations: No production as yet; No underground at date of report) Assessment work, surface trucking; in progress dozer excavation (for tunnel adit)

General operating conditions; Exceptionally good.

GENERAL DESCRIPTION OF THE PROPERTY.

A description of this Boulder-Mercury property should include a mention of the adjoining Free Enterprise Group. Together, these properties represent baout 30 claims or something more than 550 acres. ***

The claims of the two groups lie on the southerly and southeasterly slopes of round-top foot hills which flank the Elkhorn Range, bordering a wide section of the valley of the Boulder River. The main line of the Great Northern Railraod runs through this valley, enroute to Helena from Butte. There is no substantial difference in the two groups as to surface appearance or principal geological characteristics. As the situation is explained to me the property was considered larger than the Elkhorn Mining Company could develop, with facilities and funds available so they leqsed a part to the Sunshine Mining Co. and another part to Ohn Listle while the Elkhorn continued to operate the original Elkhorn Mine (Silver-lead) located some 60 miles NE of Boulder. subsequently the Sunshine gave up their lease on the Free Enterprise Group and turned that group back to the Elkhorn. (Further reference is made to this later in this report)

HISTORY.

There has been no production from the Boulder-Mercury Group; The Free Enterprise workings have produced 350 to 400 tons of ore to this date. A consideration of prior circumstances is necessary to understand the present situation.

In the year 1941, the ground covered by some of the Boulder-Mercury calims, and an adjoining area now known as the Free Enterprise group were located by Sanford R. Davis and others, Prospecting showed some gold and silver ore in the outcrops; One shaft 85' deep and another shallow one followed veins which showed some values. A general cessation of gold mining stopped these operations and the properties were dormant until 1949 when they were relaocated by the same claimants.

Some of the outcrops showed spots of cinnabar, an ore of mercury, which brought about some exploration but no production. It was then discovered

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that waste dumps at the shafts of the Free Enterprise groups showed uranium ore as determined by the Geiger counter tests. This discovery led to active development at one shaft and subsequent detailed survey of both groups of claims by means of scintillomwter equipment. Based upon these exploratory surveys the Sunshine Mining Co. took a lease on the Free Enterprise Group and equipped the old Blue Bell shaft. The company deepened the shaft, did some exploratory work, encountered water in the shaft at 100 feet below the surface, made a trial shipment, and then surrendered their lease. The Elkhorn Company under the management of W.V.Lewis took over and began to produce and ship ore in a small way. Separately, the Elkhorn Co. jad some location and assessment work on outlying claims completed. Doing so, developed new showings of uranium ore on their ground, but the ores produced have come entirely from the Silver Bell shaft, and from a section between 20' and 100' below the surface, within 150 feet of the shaft.

DEVELOPMENT ON THE BOULDER GROUP.

There is no underground work on the Boulder-Mercury Group (at the date of this report). There are discovery pits, prospect holes and open cuts on all of the claims but no real development has been attempted. The largest cut is a dozier trench of about 100' long 8' deep and 3/6 feet (at time of this report) This cuosscuts one of the principal outcrops near the center fo Boulder Mercury No. 2 claim and at the end line of Boulder-Mercury No. 4; Several smaller cuts were made recently to supplement the older test pits made during prior history of the property. At no place is there more than 8 ft or depth attained as yet.

GEOLOGICAL CONDITIONS.

The whole area may be generalized as a granitic block, probably a part of the well known Boulder Batholith, though there are a large number of well defined intrusions of a coarse grained softer momzonite. This monzoniteis higher in faldspar component than the better known quartz-monzonite of the Butte District and far more absorbent as to minwralization.

These intrusions appear as bold continuous outcrops having a general east-west trend and near vertical dips. The principal one tra-verses the length of the Boulder No. 3 claim as a strong outcropping rib, thence it is noted with less prominence westerly and south-westerlythrough the Boulder Nos. 2 & 4 and thence through the Free Enterprise group for ½ mile.

Approximately paralleling this principal structure, there are a series of others on the southerly side. Portions of these, likewise, show strong outcroppings but less continuous.

The main intrusion, or dike, is the most noticable, and, hence, has been given the most of the attention as to scintillometer surveys and exploratory work, but it i is less likely to carry mineralization to an important degree because of the certain conditions herein described.

There are a great number of places where the monzonite and the bordering granititic rocks have been cut by later intrusions of small transverse dikes, or flows, of a fine grained, hard lamphrophyre type of rock which is locally classified as Aplite. This rockis found in thin dikes and as thin flat sills squeezed out into cracks in the main structure, and is usually accompanied by quartz veins of varying size.

These conditions, as described, exist on bothh of the properties mentioned herein, and very likely extend to nearby other areas. The same general situation may be noted at several places north and east of Boulder, presumably around the fringes of the graniteic batholith, in intrusive rocksnear, but not in, the older sedimants.

To be attractive, so far as uranium mineralization is concerned, the full sequence of rock formation described must be found;

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1- Limestone or dolomitic beds
2- Massive granite
3- Monzonite or porphyritic intrusions.
4- Aplite, felsite or pegmatite intrusions
5quartz or quartz-calcite fissure fillings bordering the aplite.
6- Raee metal and precious metals in the fissure veins, adjacent to, but not in, the matrix or aplite accompanied by absorption of both primary and secondary minerals in the softer monzonite as dispersed grains or crystals.

More than likely, the aplite, the quartz and the mineralization occurred simultaneously with the latter phase continuing for some time, or as long as the structure would permit the circulation of magmatic solutions.

The geological remarks here are interposed as apossible guide in the conduct of future development work for the reason that blind or unskilled prospecting for ores in these areas would be disappointing.

ORES AND ORE TYPES.

There is no tonnage of developed commercial ore on the Boulder-Mercury group. None could be reasonably expected at the surface, other than in isolated spots. Experience on the adjoining property shows pretty well that commercialores of u uranium minerals does not exist nearer than about 50 feet below the surface. A little gold value is noted in the vein croppings and frequent spots of very high silver as native silver and as sulphide mineral, are found near the surface. However, fair to very good radio-activity is shown along and in proximity of all of t the monzonite croppings. This is particularly noted where there is a cross-break or an aplite or quartz rib in evidence in or alongside of the monzonite. The cropping of the main dikes of monzonite need not be strong at those points, some of the more broken sections appear to be the most radio-active, and in some places, location ~~mx~~ and trend of the dike may be traced under detrital by scintillometer readings.

At t e surface and in test trenches, it is found that the Geiger counter is not appreciably excited unless the probe is within a foot or two of the radio-active mineral. Underground, becomes influenced by the mass and this is not very useful as a guide to ore concentrations. On the otherhand the scintillometer is both sensetive and directional on the surface and underground and the readings are more nearly a reflection of richness of mineralization than an indication od mass or volume of ore in the vicinity.

Because of these circumstances, any futhre work at the outset be guided by what is known of the relationship between surface activity and actual underground commercial ore in the workings of the adjoining property as well as understanding the basic conditions under which uranium ores are or were deposited.

In this structure, on either or both of the properties, the primary uranium ore is uraninite, occurring with or in proximity or pyarargyrite, an ore of silver, Here there seems to be a defined difference between uraninite and pitch-blende; what we have described as uraninite is dense black, fine crystals in small masses. The pitch-blende takes on a brownish-black color, is in larger crystals, sometimes as much as ¼ inch in diameter. Frequently th alteration products are autunite and torbernite with a variety or other combinations such as uranophane and uranyl phosphate, ~~XXX~~, etc.

Autunite is found to a limited extent in the fissures and more generally as disemminated green and blackist green grains well out into the monzonite. G Generally, there is no important mineralization at the surface, but in places where the ore is hard there is some mineralization that can be noted visually and that -

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excites the counters within three or four feet from the surface. From there down, in the mine workings of the Silver Bell claim there is a gradual increase in uranium mineralization with both the primary and secondary types in place. Autunite is found at 80 feet below the surface, which is deep as I was able to observe conditions. it presumably continues to some point below the permanent water level at 180 feet. There is not enough information available as to this type of ore in this type of structure to be able to predice whether a zone of increased mineralization, or what is known as secondary enrichment, will occur immediately below the water level such as is often found in base mineral deposits. In all probability, such enrichment does not occur with uranium minerals because of the slight water solubility of the altered forms.

Incidentally; the tiny red spots that are evident in the Boulder-Mercury group croppings, have been identified as proustite, an ore of silver, They look so much like the mercury ore, cinnabar, that the red color gave rise to the erroneous name Mercury when the claims were located.

A fairly extensive scintillometer survey had allready been made on the main ledge or cropping which is mentioned as passing through the northerly claims of the Boulder-Mercury group. I checked enough of the readings to be satisfied that the survey figures were approximately correct, or at least within a reasonable range of accuracy. It is my considered opinion that the parallel ledges to the south, which are less prominent, are likely to contain a higher average mineral content, and hence are more attractive for initial prospecting and development. This is again referred to later in the report.

SAMPLING.

During my examination no average samples (accurate) could be taken, as there was no commercial ore in sight to sample. Numerous specimen samples were saved for study and these were used in the preparation of this report.

MARKET.

The sole buyer for uranium ore is the Atomic Energy Commission, or agents of the Commission. Shipments from the adjoining (FE) group are being sold to VITRO, an authorized buyer, and sent to Salt Lake City to a new plant there.

There is no fixed schedule f prices published by the Commission and recently revised upward. The price range is from $3.50 to $8. per pound of contained U_3O_8 on cars at shipping point. For estimating purposes, the value of these ores at Boulder can be figured at about $7. per pound of U_3O_8 although that price may not be realized until the operations reach a depth where the maneralization is mainly primary uraninite and pitch-blende. These ores are very desirable for treatment by the processers and the commission and I am assured that there is and will be a market and no recuction in price schedule within the foreseeable future, Carnotite ores take a lower price range, but there is no probability that any carnotite will be encountered in this structure.

CONCLUSIONS AND RECOMMENDATIONS.

I have been able to get no accurate information on the subject, but am of the opinion that the operations up to date on the adjoining property (FEgr.) have as yet been un profitable if we figure total expenditures against total receipts from the sale of some 350 to 400 tons of ore averaging about 4 pounds of uranium oxide per ton.

High costs incident to shaft operation with inadequate equipment and the relatively shallow depth of the workings are the main contributing factors. Dealing with a little known ore and a poorl y understood geological problem are probably responsible for the failure of the Sunshine company to get production The present management is good and future results should be better.

There is every good reas on to believe that development on the Boulder-Mercury group will show at least as good ore at comparable depth and grwdually improvinggrade with increased depth. The silver content of the ore on this property may be enough to be very important.

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I am advised that the Vitro company have arranged to pay for silver in uranium ores, which has heretofore not been done. I would not expect that sizable amounts of commercial ore above 100 feet from the surface, hence would not favor any appreciable expenditure for drilling or other exploration above that horizon. The first objective, should be to reach a epth of 100 feet or more at the best possible location and then map future program upon the result shown by initial work. Vertical drill cores are of course the accepted m thod of exploration for large ore bodies; in this case I would expect that such drilling to be inconclusive if not quite dissapointing. Diagonal or sloping drill work will be much better if the drill is directed to cross cut the structure. Taken as a whole it appears to me that the best initial results would be obtained by a crosscut tunnel development work. For this purpose I selected two feasible points for portal tunnels, either one of which could be decided upon for the first work.

An adit tunnel at either of these sites, directed more or less True North, would cut four or five monzonite dikes in about 800 feet length and at that length it would have 200 feet of depth below the croppings of the main dike. However as previously stated, I believe that the softer and less prominent dikes between the proposed portal and the main dike are the most likely to produce the best ore. So that commercial grade should be found in the first 300 to 350 feet of tunnel work. This tunneling could be preceded by some horizontal diamond drilling if desired. One hole of about 800 feetand two of 500 to 600 feet would be indicated. However, the cost of this drilling would total more than half of the cost of the tunnel and I personally favor spending the money on tunnel work without prior drilling. The Main reasons are that the drill work takes considerable time, and when it is finished, no one is fully satisfied with the results, whether they are ver good or ve ry bad. The whole situation justifies recommendation for development on a limited scale and the tunnel method is my preference. The surface showings and the underground conditions on the adjoining property are good. The initial work will serve to prove the particular property and its value, and it will also tend to show what may be expected throughout the district where same geological conditions can be found.

In that country, at this time of the year, ordinary tunnel work in granite andmonzonite should be done on contract. after preliminary portal and surface work is done and a road to the site is built. Very little timber will be required and a good crew should make 300 ft. of tunnel per mo° When ore is encountered it will then be an easy matter to instal sorting arrangements and track bin for shipping. No license is required for exploration and mining of uranium ore but when the ore is ready to sell, then both the producer and the buyer must be licensed which us merely the application to the Commission at the proper time.

It is understood that engineers representing the Atomic Energy Commission have recently examined this general area. The results of their work is not known to me. It is reported however, that the data can be obtained from the Spokane office of the Commission if one can show a legitimate reason for getting it. The Department of the Interior surveyors were on the ground resetting section corners a few days ago. This is a new project in a country where there has been little uranium production in the past. However improved methods of exploration and a substantially higher market price with a more or less guaranteed market for all that can be produced, all serve to reduce the gamble involved in the initial operation. If good ore is encountered as can be reasonablly expected, then the project should be quite profitable as well as quite simple to operate. I appreciate all the courtesies extended to me by all concerned at Boulder during the progress of the examination work.

Respectfully submitted,

Signed

COPY

FRANK R. WICKS
Consulting Mining Engineer
Registered Engineer No. 8370
California.

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A FEW EXERPTS TAKEN FROM THE REPORT OF WADE V. LEWIS

These exerpts taken from the report of Wade V. Lewis, President of the Elkhorn Mining Company and also the head of the "FREE ENTERPRISE"uranium group of mining claims are literal quotes and from the report signed by Lewis and dated _ _ _ _ _ _ _ _ _ _ (no date but probably made during December 1950 and January 1951 as that date appeares on a fly leaf).

SUMMARY

" The Boulder-Mercury Group of Lode mining claims is contained within a Montana area recently discovered to contain commercial uranium ores, both secondary and primary in occurrence and representing the first known occurrence and uraninite to be found in fissure type veins within the monzonite of the Boulder Batholith. It immediately adjoins the FREE ENTERPRISE uranium group being operated by the Elkhorn Mining Company and includes favorable for uranium ore exploration".

LOCATION

"The Boulder-Mercury mining claim group consists of eight unpatented claims situated in Township 6 North, Range 4 West of the Montana Principal Meridian, in Jefferson County, near Boulder, Montana, a county seat. It represents one contigious claim group as depicted on a map attached" "It lies within one mile in a westerly direction from the Great Northern Railway depot and ore loading ramps at Boulder It is situateed in a recognized productive mining area midway between Butte and Helena, Montana and borders US Highway # 91.

PROPERTY

"Consists of the following named claims;

Boulder-Mercury; Mercury Connection; Boulder-Mercury #2; Boulder-Mercury #3; Boulder-Mercury #4; Boulder Mercury #5; East Mercury #1 and East Mercury #2. all contained within T 6 N. R 4. W MPM Jefferson County Montana."

STATUS

"All claims contained in the Boulder-Mercury group were acquired by location through Sanford R. Davis etal. of Boulder, Montana, were included under lease and option to the Elkhorn Mining Company, a Momtana corporation, with offices at Boulder, Montana on the 23rd. day of November 1949, such group having been transferred under an"assignment by Lessee and Optionee for described property" on the 5th day of December 1950 to J.I.Listle of Los Angeles, California. Lands covered by these claims represented originally stock raising lands with mineral rights therein subject to location under the mining laws of the United States. Records show that there have been no transfers by deed or other conveyance of any titles from Sanford R. Davis etal. to any other principals. The map shows proximity of the property to the Great Northern Railway right-of-way which crosses the claim group. Attention is invited to apparent conflict between Boulder-Mercury #4 claim and the NEW ERA and FREE ENTERPRISE #6 claims of the adjoining group. The Boulder Mercury No. 4 is the senior claim as to date of location so that the area shown as covered by the three locations is valid contained within the Boulder-Mercury No. 4 only. As regarding a small unimportant segment covered by the Mercury Connection, Aspen and FREE ENTERPRISE #6 claims, such segment is valid as to the two later claims."

HISTORY

" * * * It should be noted that in recent months much detailed gologic field work has been performed through the USGeol Sur. and the US Bureau of Mines, working in conjunction with objectives of the US Atomic Energy Commission. Results of this work cannot be quoted at this time but mapping of the Boulder locality through these agencies of the government will be available to miner operators interested."

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GEOLOGY

** " the uranium vein currently under development at the FREE ENTERPRISE property is a part of the lode system as yet unexplored and lying within the Boulder Batholith It is one of 8 or 10 vertical fissure veins striking noerteast-southwest" ***

"The Boulder-Mercury group is likewise contained within the Boulder Batholith and is traversed by a vein system similar to that found in the adjoining Free Enterprise group, in fact some of the veins of the Mercury group represent extensions (?) of part of the lode system found on the Free Enterprise group. All of the rocks found within the Boulder Mercury group and its immediate vicinity are of igneuous character, consisting mainly of monzonite in which is found geologic conditions similar to those at the Free Enterprise" ***

" ***

CONCLUSIONS

" The Boulder mining claims group included in an area producing the first commercial uranium ores found in Montana and the Pacific Northwest and immediately adjoins the main district producer."

" It is contained in the Boulder granite Batholith, is traversed by fissure vein ore structure. *** "

"The vein system contained within the Boulder-Mercury group shows definite radioactivity and increased count through scintillometer surveys of vein structures"

While a complete copy of the Lewis report is not furnished as it relates to a considerable extent to a scintillometer survey and which is now largely out of date due to the later and subsequent development work that has been done on the Boulder-Mercury Group. Refer_ence is had however to this particular report which is now on file with the governmental agencies working in the Boulder Mont. area and under the direction of the AEC.

The exerpts here shown apply particularly to the Boulder-Mercury group and are considered pertinent, even though written three or more years ago and prior to the tunnel being driven on No. 2 and No. 5 of the Boulder Mercury group.

It is also suggested that maps made by the USGS and the USBM be consulted rather than those made fromm magnetic surveys.

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Memorandum of assays from [illegible] from
Enterprise Group adjoining
Boulder-Monarch on the east.

On account of an ore having been delivered from the development work done on the Boulder-Monarch Group of Mining Claims, there has always [illegible] from samples of ore from the Jess Enterprise Mine to indicate the values to be encountered when the development tunnel [illegible] the south end of the mine and now being driven on Boulder-Monarch No. 1 & 2 [illegible] on Green and the gold value.

Lot #1	.16 per cent	@ $ .70 lb	$111.77
Lot #2	1.34 "	" @ $ [illegible] "	[illegible]
Lot #3	1.51 "	" @ $ [illegible] "	[illegible]
Lot #4	.60 "	" @ $ [illegible] "	[illegible]
Lot #5	.15 "	" @ $ [illegible] "	[illegible]
Lot # [illegible]	.14 "	" @ $ [illegible] "	[illegible]

These samples are say the original assays of shipments which were made to Tacoma Smelter [illegible] of Salt Lake City that [illegible] from a [illegible] furnished [illegible] of the Eldorado Mining [illegible] of the [illegible] by that company. [illegible] a [illegible] of the [illegible] will be encountered in the [illegible] of the Boulder-Monarch Group.

The [illegible] made by the Eldorado Mining [illegible] from the Jess Enterprise Group [illegible] from [illegible] Supplies [illegible] and no other [illegible] are available at this time.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 14 1953

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

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-2981
Metal or Mineral
Date Received 4-14-53
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: Sanford R. Davis
Postoffice Box 69
Boulder, Montana.

(*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 Boulder-Mercury; Boulder-Mercury #2; Boulder-Mercury #3; Boulder-Mercury #4; Boulder-Mercury #5; Mercury Connection; East Mercury #1; & East Mercury #2. Lode Mining Claims and for other particular descriptions etc. see attached papers under #3 item.

(*b*) State any mine name by which the property is known. Boulder-Mercury Group.

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

(*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. See attached papers under item 3 par. (f)

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 att. papers.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. No production

(*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. Copies of reports and excerpts from others.

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

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

16—66551-1

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore for uranium bearing ores toward production of U_3O_8

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[X] Money [ ] 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 April 7th, 1953

Clyde R. Davis
(Applicant)

By Sanford R. Davis
Atty in fact

Sanford R. Davis

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

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BOULDER - MONT.

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Items in the following pages are referred to by item number and paragraph number of the cover sheet of this application as shown below.

Item No. 1. (a) Name Sanford R. Davis
PO Box 69
Boulder, Montana.

(b-c-d) Not required.

Item No. 2. All papers made in quadruplicate and attached hereto .

Item No. 3. (a) Names of all claims set out on formal application.

(b) Boulder-Mercury Group

(c) Owner by location of Mining claims.

(d) blank

(e) No incumberances.

(f) Names of claims with book and page record in Jefferson County Montana records.

see page no. _ _ _ _ _ _ _ _ _ _

Item No. 4. (a) Physical description:
A tunnel whose adit is located on Boulder-Mercury #5 approximately 30' east of the SE. Cor. of Boulder-Mercury #8; the dimensions of this tunnel is 6' X 8' and is projected 295' to the present face northwesterly from the adit. Bearing full scale offset for declination 22E. This present tunnel and from which it is proposed to drive the extension for which this loan is applied for was driven under contract during 1956 and all work was done for use and benefit of the Boulder - Mercury group.

Workings: The claims or group lie N.Easterly from Boulder Montana station on the Great Northern Railroad about 1 mile and easily reached by auto via county road and bulldozed mine road.

(b) Production: None at present, the tunnel is being driven to tap vein on Boulder- Mercury #2 - 3 & 4 claims.

(c) Geologic features: Features are described in the copies of reports and memorandums attached hereto, sketch of group showing relative position of claims, tunnel, cut on vein. Type of ore to be mined is primary and secondary uranium bearing ores;

(d) County road for about ½ mile from Gt. Nor. R.R.

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station and thence over a bulldozed, hill side mine road to adit of present tunnel and shown on sketch of claims; actual survey has not been made for permanent road. Distances to shipping points are shown in Wicks report.

(e) Man power, materials, supplies, water and power are also shown in Wicks report and concurred in by Cooper memorandum.
The accompanying copies of reports cover the geology of the group area and are made a part of this application.

Item 5 (a) For uranium bearing ores;
(b) It is proposed to drive an extension for approximately 300' from the face of the present tunnel driven under contract in 1954 in a Westerly direction to a point where it will intersect the vein at a point approximately 200' in depth under the open cut at top of ridge and should disclose a relatively large ore body. The Tunnel and Open cut together with the proximate vein location are shown on the sketch map. It is contemplated that at least 100 ft. each side of the tunnel and should be driven into claims 3 & 4 of this group. The tunnel extension must be of the same size as the present tunnel.

6

(c) Work will start about ? . . . . . .
(d) This extension to the present tunnel will be contracted to an experienced miner who owns his own equipment and is capable of successfully completing the extension contemplated and was the contractor on the present work. He owns all the equipment necessary, perfectly familiar wi th all the requirements, the character of the work and the rock formations that are to be encountered.
~~(e)~~ No repairs necessary. In addition to the contractor the work wi ll be personally supervised by the owner and by assisting engineers who will closely check all work as it progresses.

Item No. 6. (a) Estimate of costs are covered in a special sheet headed for this item.
(b) Also covered by special sheet.
(c) Furnished by the contractor.
(d) Furnished by the contractor.
(e) No repairs necessary.
(f) No building necessary at present time.
(g) All workmens compensation, insurance and pay roll taxes are the responsibility of the contractor and paid for by him. Equipment is property of contractor.
(h) Contingencies are shown on special sheet.

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Special Sheet. No. 6
Estimate of costs.

6.--

(a) Estimate of cost for driving 300' extension to present tunnel on Boulder-Mercury Nos. 2 & 3.
300' @ $ ..25..... per foot $..7500.00
200' 25 5000

(b) Supervision, engineering $.....-.....
Geology &c. $.....-.....

(c) Included in contract costs

(d) Owned by contractor

(e) No rehabilitation necessary. Contractor furnishes all materials necessary or required.

(f) No new buildings necessary at this time. No fixed improvements to be made at present time.

(g) Contractor assumes all repair costs together with wages, workmens compensation insurance, payroll taxes in fact every expense except the reports of progress required by the government and required by loan terms.

(h) Miscellaneous expenses not specified in above estimate of costs. $.....-.....

Totals. $.12500.00

Item 7 (a) Yes am prepared to furnish my share as required by loan terms.

(b) By money or .....

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AGREEMENT

THIS AGREEMENT made and entered into this 20th. day of February 1953, by and between John I. Listle, party of the first part, and Sanford R. Davis and Clyde R. Davis, parties od the second part, Witnesseth;

WHEREAS some controversy has arisen between the parties hereto as to whether the party of the first part has performed the provisions of that certain assignment made and entered into on the 5th. day of December 1950, wherein the Elkhorn Mining Company, a corporation, assigned to the party of the first part a portion of that certain lease entered into on the 23rd. day of November 1949 between the parties of the second part and the Elkhorn Mining Company, a corporation, as to the following described property.

Name of Lode claim	Jefferson County Record.		
	Book	Page	Instrument No.
Boulder-Mercury	45	353	55067
Boulder-Mercury #2	45	391	56286
Boulder-Mercury #3	45	392	56287
Boulder-Mercury #4	45	393	58034
East Mercury #1	46	549	65919
East Mercury #2	46	550	65920
Mercury Connection	46	552	65922
Boulder-Mercury #5	46	551	65921

And WHEREAS the parties are desirous of settling said controversy, and WHEREAS, the party of the first part has executed unto the parties of the second part an assignment of said lease and lease insofar as the above described property is concerned, NOW THEREFORE, in consideration of the premises it is mutually agreed that the said assignment executed by the party of the first part unto the parties of the second part has been delivered to Ralph J. Anderson attorney, 517 Power block, Helena Montana, to be held by him on the following conditions, namely, that if, the said party of the first part, or his assigns, commences driving the tunnel heretofore commenced on the above described property and has commenced development work by continued driving of said tunnel, on June 1, 1953, then the escrow agent shall not deliver the said release and assignment to the parties of the second part. If the said party of the first part, or his assigns has not delivered satisfactory evidence to the escrow agent of the commencement of said development work on the first day of June 1953, then he shall deliver said assignment and release unto the parties of the second part.

IT IS MUTUALLY AGREED that the parties of the second part may apply to any governmental agency they so desire, for a loan for development of the above described property and if such loan is made available on or before June 1, 1953 then the parties of the second part agree to make the proceeds available to the party of the first part or his assignees, for the development of the above described property and if such funds are thus available it shall be deemed to be a performance of the obligation on the part of the party of the first part or his assignees, and he shall commence development within 30 days after the receipt of notice of granting of such loan, or in any event by JUNE 1, 1953 and the party of the first part agrees to reimburse to the second parties such monies expended in the actual securing of a loan from governmental agency.

IT IS FURTHER MUTUALLY AGREED that if the party f the first part, or his assignees, continues the development work on said tunnel within reasonable diligence until it is driven an additional 300' then the said lease agreement and assignment of lease hereinbefore referred to shall be deemed to be in good standing and subject then to the terms and provisions thereof as now written (underscored words initialed by SRD and JIL) and the release executed herewith and held in escrow shall be immediately be returned to the party of the first part, or assigns, but if said development work does not continue with reasonable dilligence then the escrow

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agent is authorized, upon the happening of such events, to deliver said assignment and release unto the parties of the second part.

It is further agreed that if at any time during this agreement r said original contract and assignment thereof to the first party, said first party orn his assigns , should make application for government loan for purposes of development of said pxm property that the second partxxx or parties agree to immediately upon request sign a subordination agreement to the government.

IN WITNESS WHEREOF the parties hereto have set their hands on the day and year first above written.

Signed J.I.Listle
Party of the First Part.
Clyde R. Davis
By S.R.Davis Attorney in Fact
Sanford R. Davis,
Parties of the Second Part.

State of Montana

ss.

County of Lewis & Clarke

On this 24th day of February 1953 before me, Ralph J. Anderson, a Notary Public for the State of Montana, personally appeared J.I.Listle and Sanford R. Davis, known to me to be the same persons whose names are subscribed to the within instrument and acknowledged that they executed the same.

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

Signed Ralph J. Anderson
Notary Public for the State of Montana
residing at Helena Montana,
My commission expires Jan 29 1956.

Seal

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RELEASE.

KNOW ALL MEN BY THESE PRESENTS:

That the undersigned J.I.Listle, party of the first part and Sanford R. Davis and Clyde R. Davis, parties of the second part, WITNESSETH: That for and in consideration of the sum of one dollar paid to the party of the part by the parties of the second part, the receipt whereof is hereby acknowledged, does hereby sell assign transfer and set over unto the said parties of the second part, that certain assignment of lease enteredinto on the X5th day of December 1950, by and between the Elkhorn Mining Company, a corporation, therein called first party and J.I.Listle, second party, describing therein the followin g described property.

Name of Lode claims	Jefferson County Book	Page	Record Instrument No.
Boulder-Mercury	45	353	55067
Boulder-Mercury No. 2	45	391	56286
Boulder-Mercury No. 3	45	392	56287
Boulder-Mercury No. 4	45	393	58034
East Mercury No. 1			
East Mercury No. 2.			
Boulder-Mercury No. 5			
Mercury Connection			

The acceptance and delivery of this instrument to the parties of the second part shall operate to release, terminate and end the assignment of the lease above mentioned and the lease on the above described property which was assigned to the party of the first part by the Elkhorn Mining Company, a corporation which lease was dated on the 23rd, day of November 1949, in-so-far as the above described lands and premises are concerned.

IN WITNESS WHEREOF, the party of the first part has hereunto set his hand on this 20th day of February 1953

Signed John I. Listle.

COPY

State of Montana

ss.

County of Lewis & Clark

b On this 20th day of February 1953, before me Ralph J. Anderson A notary Public for the state of Montana, personally appeared J.I.Listle known to me to be the same person whose name is subscribed to the within instrument and acknowledged that he executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal in this certificate first above written.

Signed Ralph J. Anderson
Notary Public for the State of Montana and residing at Helena Monta a My commission expires Jan 29 1956

Seal

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Names of claims of the Boulder-Mercury Group of mining Claims together with the record of location as shown by the records of Jefferson County Montana.

NAME OF LODE LOCATIONS	JEFFERSON COUNTY RECORD		
	Instrument Index	Book	Page
Boulder-Mercury	55067	45	353
Boulder-Mercury No. 2	56286	45	391
Boulder-Mercury No. 3	56287	45	392
Boulder-Mercury No. 4	58034	45	393
East ~~MM~~/Mercury No. 1	~~MM~~ 65919	46	549
East Mercury No. 2.	65920	46	550
Boulder Connection	65922	46	552
Boulder-Mercury No. 5	65921	46	551

M. R. COOPER
CONSULTING GEOLOGIST
BUTTE, MONT.

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SCIENTIFIC AND
ECIALIZED PERSONNEL.
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APARTMENT 3
FIRST NATIONAL
BANK BUILDING
TWX-BT6

March 23, 1953

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BOULDER-MERCURY GROUP
Section 20, Twp. 6N. Rge 4W
Montana Meridian Jefferson County.

GROUP

The Boulder-Mercury Group consists of the following named claims; The Boulder-Mercury; Boulder-Mercury Numbers 2-3-4-5 & Mercury Connection.

ORE

Primary and Secondary uran ium bearing ores; veins also carry gold and Silver in small amounts.

TITLE

Locations made on Public Domain, surface is subject to Taylor Grazing Act. All claims located by Sanford R. Davis etal. of Boulder Montana.

Record of Filing Claims.

Boulder-Mercury		Jan. 14 1941 #55067	Recorded in	Book	45	Page	353
"	"	No. 2 " 29 1942 #56286	"	"	"	45	"	391
"	"	# 3 " 29 1942 #56287	"	"	"	45	"	392
"	"	#4 " 29 1942 #58034	"	"	"	45	"	393
"	"	# 5 Dec. 29 1949 # 65921	"	"	"	46	"	551
Mercury Connection" 29 1949 #65922			"	"	"	46	"	552

MAPS

A sketch map of the claims, not made to scale; Reference also is had to a recent US Mineral Survey of the Free Enterprise Group for patent of that group which has been approved by the Surveyor General of the GLO but which application for patent has not yet been completed. The sketch map which accompanies this report shows the approximate position of the claims listed above from the ground record; the location of the tunnel adit and the open cut crosscutting the largest vein in the area.
The USGeol. Sur. also have mapped the area.

Shipping Station.

Boulder Montana on the Great Northern Railroad. Distant about 1 mile.

Roads.

Rough country road, said to be controlled by the County with a preliminary bulldozed leading to tunnel site on the claims. A hill side road must be built to connect with the county road, a low cost construction.

Elevations.

Tunnel adit on B-M Nos. 2 & 5 About 5200'

Assessment work.

All assessment work for the fiscal year of 1952/1953 completed.

Terrain

Rolling hills; a few scattered trees (Pinus Limbus) of no commercial value; rocky reef outcroups easterly and westerly across the groups; surface stony and covered by sage brush and range grass.

Water.

None except that which may be encountered by mining operations.

Power.

Montana Power Company high line available at about a mile.

Tunnel.

The present tunnel, the adit of which is on B-M #5 and thence into B-M #2 and designed to crossut the large vein on B-M #2 at or about the point where the open cut shown on the sketch was constructed during the years 51/52. Distance

SANFORD R. DAVIS
BOULDER - MONT.

M. R. COOPER
CONSULTING GEOLOGIST
BUTTE, MONT.

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from the adit to the face is 295'; size is 6' X 8'; no timbering necessary except that at the portal and its approaches.

Examination

During the month of February 1952, by the writer and an associate, an underground examination and inspection of the Free Enterprise Group on the west (at Silver Bell shaft) checking the 60'-85'- and 150' levels; small veinlets in the granite and monzonite intruded by aplite dikes and sills were observed. Checking at the Silver Bell was done with a scintillometer and with a geiger counter. Water was flowing from both east and west ends of the level (150') and appeared to be coming thrpugh drill holes and from a fault near the Silver Bell shaft. Later the same year outcrops on the Boulder-Mercury group were checked with the sciatillometer and the readings were considerably higher on the surface than those taken underground on the adjoining group. Yesterday,(March 23) accompanied by the same mining engineer; another inspection was made on the Boulder-Mercury Group for the purpose of getting the approximate locations of this groups from stakes on the ground; claims not having been surveyed by a US Mineral Surveyor for patent and further to make an approximate location of the present 295' tunnel adit on Boulder-Mercury Nos. 2 & 5 claims — for record on the sketch attached hereto . From the inspection made in this tunnel and the opencut at the crest of the hill we found that the geology of the area is approximately the same as that set out in the report of Mr. Frank R. Wicks when he reported on this group in May 1951 and need not be repeated here. We may say however, that generally it consists of a granititic block (The Boulder Batholith) with some coarse granite showing, monzonite and intrusions or flows locally called aplite which vary in thickness.

In checking the veins and outcrops, found that they generally run easterly and westerly across the group and attention was centered on the opencut at the top of the ridge through B-M #2 near discovery pit. This cut starting in solid granite walls shows a measured width of 135' of vein matter between the walls, with a depth of approximately 20' below the point of discovery. This cut was very active on the scintillometer and the tunnel started on B-M #5 near the SE corner of B-M #2 should cut the vein on B-M #2 near the westerly end of the open cut at a depth of approximately 200' when it is driven straight with the adit for another 300' from the present face of the tunnel though the distance may be less when paying ore is encountered.

The accompanying sketch , not made to scale, is only to show the relative position of the claims with reference to the large vein running across this group in an east-west direction; the map or sketch also shows the approximate location of the opencut on this vein; also marks hte present adit of the tunnel.

Briefly it is recommended that the tunnel shown on B-M #2 and #5 be extended from the present face another 300' to intercept the main or large vein and when intercepted, laterals should be run or driven at least 100' easterly and westerly from the tunnel walls, it should be driven into Nos. 3 & 4 if funds will allow. At this distance there should be amp e back, approximately 200' and should show good ore values as the inspection at the opencut indicates the possibility of a very large ore body. The contract for the tunnel extension should be let as soon as possible.

Respectfully submitted.
Signed M.R.Cooper
Consulting Geologist.

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REPORT OF EXAMINATION
BOULDER-MERCURY GROUP
LODE MINING CLAIMS.
Jefferson County Mont.

By
Frank R. Wicks, Consulting
Mining & Industrial Engineer.
Los Angeles, California.

Date of Examination — May 13-16 1951 Report May 22, 1951.
Prepared for Western Mines Inc.
Name of Property — Boulder-Mercury Group
Type of ores — Primary & Secondary uranium minerals with considerable silver, some gold and some mercury and lead in spots.
Names of Claims — Boulder-Mercury; Boulder-Mercury Nos. 2-3-4 & 5 East Mercury Nos. 1 & 2 and ercury Connection.
Area — eight mining claims, about 145 acres. Contigious.
Location of property — One mile northerly from Boulder Montana.
Legal Location — A portion of section 20 T 6n R 4 W. MPM, mostly in north half of that section. Nearest reference point is NW Cor. of section 20.
T tles; — Unpatented claims held by location by Sanford R. Davis etal.; subsequently leased to the Elkhorn Mining Company and later subsequently leased to John I. Listle of Los Angeled. Calif. whose present address is _____ _____. Lease and sub-lease carry option to purchase and provides for payment of royalties to apply in part to purchase p yments.
Assessment work — Completed for current fiscal year to hold claims until June 30, 1952.
Maps; — Reference is had to maps made by Qade V. Lewis & approximately correct as to location of Boulder-Mercury group based on preliminary survey; The claims have not been surveyed by a US Mineral Surveyor in the manner required for procurement of patent title but this is not required to maintain unpatented status.
Mining District — Known as the Boulder district, also a part of the Elkhorn District, for which boundaries have not been establisted.
Federal Reservations — Prpperties are apparently outside of the Elkhorn Forest Reserve, but are subject to the provisions of the Taylor Grazing Act for cattle Grazing.. This does not in any way interfere with normal mining operations.. No school land, railroad land or Indian reservations involved except for right or way of the Great Northern Railroad through the lower extreme end of East Mercury Nos. 1 & 2.
Shipping point; — Boulder, a station on the Great Northern Railroad ½ to 3/4 of a mile from the property. Loading track and two loading ramps at station. Railroad runs accoss the end of two of the claims.
Roads — Boulder is on paved US Highway No. 91. Road to property is good. County maintained. Road on property to reach principal working places will have to be built involving less than a mile of hillside grading of easy construction, plus two or three culverts and a cattle guard.
Road Distances. — Boulder to Helena via Highway 30 Miles
Boulder " Butte " " 34 "
Boulder to Salt Lake as destination of ore shipments 500 "

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Elevations — At Boulder 4900' ASL
At central portion of property 5200'

Terrain — Rolling hills; sparsely timbered, few rock outcrops, surface covered with range grass.

Climate — Snow and freezing weather December to March; ordinary underground operations can be carried on throughout the year after property is equipped to do so.

Power — Nearest electric power line is about one mile away (at this report) It is understood that power will be available when wanted.

Water — None on the property now. Water for mining purposes can be develpoed by shallow well in main canyon when desired. Underground operations will likely be dry above the 5000'ASL elevation. The properties are in the watershed of the Boulder River which flows soutwesterly through the county.

Timber; — None on the property, can be purchased as green mine dimension timber or logs from nearby.

Labour — Usually ample and good in this area. Mostly American native miners living in this vicinity.

Camp Equipt. — None now and none required.

Mine Wquipt. — None.

Operations — No production as yet, no underground at date of report, Assessment work, surface trucking; in progress--Bulldozer excavation. (for tunnel site)

Gen'l Operation conditions — Exceptionally good.

General Description of the property

A description of the Boulder-Mercury property should include a mention of the adjoining Free Enterprise Group. Together these properties represent about 30 claims or something more than 550 acres ***

The claims of the two groups lies on the southerly slope of round top foot hills which flank the Elkhorn Range, bordering a wide section of the valley of the Boulder River. The main line of the Great Northern Rairoad runs through this valley, enroute to Helena from Butte. There is no substantial difference in the two groups as to surface appearance or principal geological characteristics. As the situation is explained to me, the property was considered larger than the Elkhorn Mining Company cou d develop with facilities and funds available so they leased a part to the Sunshine Mining company and another part to John I. Listle while the Elkhorn continued to operate the original Elkhorn Mine (Silver-Lead). & Located some 60 (61) miles NE (SE)of Boulder. Subsequently the Sunshine gave up their lease on the Free Enterprise group and turned that group back to the Elkhorn. (Further reference is made to this later in this report).

HISTORY

There has been no production from the Boulder-Mercury group; the Free enterprise workings have produced 350 to 400 tons of ore to this date. A consideration of prior circumstances is necessary to understand the present situation.

In the year 1941, the ground covered by some of the Boulder-Mercury claims and the adjoining area now known as the Free Enterprise group were located by Sanford R. Davis and others, prospecting showed some gold and silver ore in the outcrops. One shaft 85' deep and another shallow onefollowed vaeins that showed some values. A general cessation of gold mining stopped these operations and the properties were dormant until 1949 when they were relocated by the same claimants. Some of the outcrops showed spots of cinnabar, an ore of mercury, which brought about some exploration but no production. It was then discovered that waste dumps at the shaft of the Free Enterprise group showed uranium ore as determined by geiger counter tests.

This discovery led to active development at one shaft and subsequent detailed survey of both groups of claims by means of scintillometer equipment. Based upon these exploratory surveys, the Sunshine Mining Company took a lease on the Free Enterprise group and equapped the old Blue Bell shaft. The company deepened the shaft did some exploratory work, encountered water in the shaft at 100' below the surface,

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made a trial shipment, and then surrendered their lease. The Elkhorn Company under the management of Wade V. Lewis took over and began to produce and ship ore in a small way. Separately the Elkhorn Company had some location and assessment work on outlying claims completed. Doing so, developed new showings of uranium on their ground, but the ore produced have come directly and entirely from the Silver Bell shaft, and from a section between 20' and 100' below the surface, within 150 ' from the shaft.

Development on the Boulder Group.

There is no underground work on the Boulder-Mercury group (at the date of this report) There are discovery pits, prospect holes and open cuts on all of the claims but no real development has been attempted. The largest cut is a dozier trench about 100 feet long, 8 feet deep, and 3/5 feet (at the time of this report). This crosscuts one of the principal outcrops near the center of the Boulder-Mercury No. 2 claim and at the end line of Boulder-Mercury No. 4. Several smaller cuts were recently made to supplement the older test pits made during prior history of the property. At no place is there more than 8 ft. of depth attained as yet.

GEOLOGICAL CONDITIONS

The whole area may be generalized as a granititic block, probably a part of the well known Boulder Batholith, though there are a large number of well defined intrusions of a coarse grained softer monzonite. This monzonite is higher in feldspar component than the better known quartz-monzonite of the Butte Districe and far more absorbent as to mineralization. These intrusions appear as bold continuous outcrops having a general east-west trend and near vertical dips. The principal one traverses the length of the Boulder-Mercury 3 claim as a stong outcropping rib, thence it is noted with less prominence westerly and southwesterly through Boulder-M. Nos.2 & 4 and thence through the Free Enterprise group for ½ mile. Approximately paralleling this principal structure, there are a series of others on the southerly side. Portions of these, likewise, show strong croppings but less continuous. The main intrusion or dike, is the most noticible and, hence, has been giventhe most of the attention as to scintillometer surveys and exploratory work, it is less likely to carr y mineralization to an important degree because of the certain conditions herein described. There are a great number of places where the monzonite and the bordering granititic rocks have been cut by later intrusions of small traverse dikes, or fllws, of a fine grained, hard lamphyophyre type of rock which is locally classified as aplite. These rocks is found in this dikes and as thin flat sills squeezed out into cracks in the main structure and is usually found accompanied by quartz veins of varying size. These conditions, as described, exist on both of the properties mentioned h rein, and very likely to extend to nearby other areas. The same general situation may be noted in several places north and east of Boulder, presumably around the fringees of granititic batholith, in intrusive rocks near, but not in, the older sediments. To be attractive, so far as uranium min eralization is concerned, the full sequence of rock formation described must be found.

1-Limestone or dolomitic beds
2-Massive granite
3-Monzonite or porphyrititic intrusions
4-Aplite, felsite or pegmatite intrusions.
5-Quartz or quartz-calcite fissure fillings bordering the aplite.
Base metal and precious metals in ghe fissure veins, adjacent to, but bot in the matrix or aplite accompanied by absorption of both primary and secondary minerals in the softer monzonite or dispersed grains or crystals.

More than likely the aplite, the quartz and the mineralization occurr ed simultaneously with the lesser phase continuing for some time, or as long as the structure would permit the circulation of magmatic solutions. The geological remarks here as interposed as a possible guide in the conduct of future development for the reason that blind or unskilled prospecting for ores in these areas could be disappointing.

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ORES and ORE TYPES.

There is no taoonage od developed commercial ore on the Boulder-Mercury group None could be reasonably expected at the surface, other than in isolated spots. Experience on the adjoining property shows pretty well that commercial ores of uranium minerals does not exist near than about 50 feet below the surface. A little gold value is noted in the vein croppings and frequent spots of very high silvr as native silver and as sulphide material are found near the surface. However, fair and to very good radio-activity is shown along and in proximity of all of the monzonite croppings. This is particularly noted where there is a cross break or an aplite or quartz rib in evidence in or alongside of the monzonite. The cropping of the main dikes of monzonite need not be strong at these points, some of the broken sections appear to be the most radio-active, and in some places. location s and trend of dikes may be traced by dstrital by scintillometer readings.

At the surface and in test trenches, it is found that the geiger counter is not appreciably excited unless the probe is within a foot or two of the radio active mineral. Underground, influenced by the mass, this is not very useful as a guide to ore concentrations. Onm the other hand the scintillometer is both sensetive and directional on the surface and underground and the readings are more nearly a reflection of the richness of mineralization than an indication of mass or volume of the ore in the vicinity. Because of these circumstances, any future work at the outset must be guided by what is known of the relationship between surface activity and actual underground commercial ore in the wprkings of the adjoining property as well as understanding the basic conditions under which uranium ores are or were deposited.

In this structure, on either or both of the properties, the primary uranium ore is uraninitem occurring with or in proximity of Pyarargyrite, an ore of silver. Here there seems to be a well defined difference between uraninite and pitch-blende. What we have d escribed as uraninite is dense blackm fine crystals in small masses. The Pitch-Blende takes on a brownish color, is in larger crystals, sometimes as much as ¼ inch in diameter. Frequently the alteration products are autunite and torberite with a variety or other c mbinations such as uranophane and uranyl phosphate etc.

Autunite is found to a limited extent in the fissures and more generally as disseminated green and blackish-green grains well out into the monzonite. Generally there is no important mineralization at the surface, but in places where the ore is hard there is some mineralization that can be visually noted and that excites the counters within 3 or 4 feet from the surface. From there down, in the mine workings of the Silver Bell claim there is a gradual increase in the uranium mineralization with both primary and secondary types in place. Autunite is found at 80' below the surface which is as deep as I was able to observe conditiond. It presumably continues to some point below the permanent water level at 120 feet. There is not enough information available as to this type of ore in this type of structure to predict whether a zone ofincreased mineralization or what is known as secondary enrichment will occur immediately below the water level such as is often found in base mineral deposits. In all probability, such enrichment does not occur with uranium bearing minerals because of the slight water solubility of the altered forms.

Incidentally the tiny red spots that are evident in the Boulder-Mercury group outcroppings, have beed determined as prousite, an ore of silver, They look so much like Mercury ore, cinnabar, that the red color gave rise to the erroneous name Mercury when the claims were located.

A fairly extensive scintillometer survey had allweady been made on the main ledge or cropping w ich is mentioned as passing through northerly claims of the Boulder-Mercury group. I checked through the readings to be satisfied that the survey figure s were approximately correct, or at least within a reasonable range of accuracy.

It is my considered opinion that the parallel ledges to the south, which are less prominent are likely to contain a higher average mineral content, and are hence are m more attractive for initial prospecting development. This is again referred to later in the report.

Sampling.

During my examination no average samples (accurate) could be taken, as there was no commercial ore in sight to sample. Numerous specimens were saved for study and these were used in the preparation of this report

Market.

The sole buyer for uranium ore is the Atomic Energy Commission, or agents of the commission. Shipments from the adjoining (Free Enterprise) Group are being sold to VITRO, as an authorized buyer, and sent to Salt Lake City to a new plant there. there is no fixed schedule of prices published by the commission and recently revised upward. Te price range is from $3.50 to 8.00 per pound of contained U_3O_8 on cars at shipping point. For estimating purposes, value of these ores at Boulder can be figured at about $7. per pound of U_3O_8 although these prices may not be realized until the operations reach a depth where the mineralization is mainly primary uraninite and pitchblende. These ores are very desirable for treatment by the processers and the commission, and I am assured that there will be a market and no reduction in the price schedule within the foreseeable future. Carnotite ores take a lower price range, but ther is no probability that any carnotite will be encountered in this structure.

Conclusions and recommendations.

I have been able to get no accurate information on the subject, but am of the opinion that operations up to date on the adjoining property (F-E) have as yet been unprofitable if we figure the expenditures against the total receipts from the sale of ore, some 350/400 tons of ore averaging about 4 lbs o uranium oxide per ton.

High costs incident to shaft operation with inadequate equipment and the relative shallow depth of the workings are the main contributing factors. Dealing with little known ore and a poorly understood geological problem are probably responsible for the failure of the Sunshine Co. to get production. The present management is good and future results should be better. There is good reason to believe that development on the Boulder-Mercury group will show at least as good ore at comparable depth and gradually improving grade with increased depth. The silver content of the ore on this property may be enough to be important.

I am advised that the VITRO company have arranged to pay for the silver in uranium ores, which has heretofore not been done. I would not expect that sizable amounts of commercial ore above 100' depth from the surface nad hence would not favor any appreciable ~~drilling~~ expenditure for drilling or other exploration above that horizon. The first objective should be to reach a depth of 100' or more at the best possible location and then map future program upon the result shown by initial work. Vertical drill cores are of course the accepted method of exploration for large ore bodies; In this case I would expect that such drilling to be inconclusive, if not quite dissapointing. Diagonal or sloping drill work will be much better if the drill is directed to crosscut the structure. Taken as a whole it appears to me that a crosscut tunnel furnishes the best initial results for development work. For this purpose I have selected two feasible points for portal tunnels, either one of which would be decided upon for first work. An adit tunnel at either of these sites, directed more or less true North would cut four or five monzonite dikes in about 800 feet in length and at that length it would have 200' feet of depth below the croppings of the main dike. However as previously stated I believe that the softer and less prominent dikes between the proposed portal and the main dike are the most likely to produce the best ore. so that commercial ore could be found within the first 300'/350' of tunnel work. This tunneling could be prededed by some horizontal drilling if desired. One hole of about 800'; two of 500/600' would be indicated. However the cost of the drilling would total more than half the cost of the tunnel and I personally favor spending the money on the tunnel work without prior drilling. The main reasons are that the drill work takes considerable time and when it is finished, no one is satisfied with the results whether they were very good or very bad. The whole situation justifies the recommendation for development on a limited scale and the tunnel method is my preference.

The surface showings and the underground conditiond on the adjoining property are good. Tye initial work will serve to prove the perticular property and its value and it will also tend to show what may be expected throughout the district where the same geological conditions are to be found. In that country, at this time of the year, ordinary tunnel work in granite and monzonite should be done on contract, after

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preliminary portal and surface work is done and a road to the site is built. But little timber will be required and a good crew should make 300' of tunnel ber month. When ore is encountered it will then be an easy matter to instal sorting xxx arrangements and track bins for shipping. No license is requiree for exploration and mining of uranium ore but when the ore is ready to sell, then both the producer and the buyer must be licensed which is merely the application to the commission at the proper time.

It is understood that engineers representing the Atomic Energy Commission have recently examined this area. The results of their work is not known to me. It had been reported however, that the data can be obtained from the Spokane office of the commission if one can show a legitimate reason for getting it. The Department of the Interior Surveyors were on the grould resetting section corners a few days ago. This is a new project, in a country where there has been little uranium production in the past. However improved methods of exploration and a substantially high r market price with a more or less guaranteed market for all that can be produced, all serve to reduce the gamble involved in initial operation.

If good ore is encountered as can be reasonably expected than the project should be quite profitable as well as quite simple to operate.

I appreciate all the courtesies extended to me by all concerned at Boulder during the progress of the examination work.

Respectfully submitted

signed

FRANK R. WICKS
Consulting Mining Engineer.
Registered Engineer No. 2370
California.

COPY

A FEW EXCERPTS TAKEN FROM THE REPORT OF
Wade V. Lewis.

These excerpts taken from the report of Wade V Lewis, President of the Elkhorn Mining Company, and also the head of the "FREE ENTERPRISE uranium group of mining claims are literal quotes and from the report signed by Lewis and dated _ _ _ _ _ (no date but probably made during December 1950 as that date appears on a flyleaf).

Summary

"The Boulder Mercury group of Lode Mining claims is contained within a Montana area recently discovered to contain commercial uranium ores, both secondary and primary in occurrence and representing the first known occurrence and uraninite to be found in fissure type veins within the monzonite of the Boulder Batholith. It immediately adjoins the Free Enterprise uranium group being operated by the Elkhorn Mining Company and inc udes favorable for uranium ore exploration"

Location

"The Boulder-Mercury mining claim group consists of eight unpatented claims situated in Township 6 North Rage 4 West of the Montana Principal Meridian in Jefferson County, near Boulder Montana, a county seat. It represents one contigious claim group as depicted on the map attached" "It lies within one mile in a westerly direction from the Great Northern Railway depot and ore loading ramps at Boulder. It is situated in a recognized productive mining area midway between Helena and Butte Montaha and borders on Highway #91.

Property

"Consists of the following named claims; Boulder-Mercury; Mercury Connection; Boulder-Mercury #2; Boulder-Mercury #3; Boulder-Mercury #4; Boulder-Mercury #5; East Mercury #1 and East Mercury #2 all contained within T 6N R 4W MPM Jefferson County Montana"

Status.

All claims contained in the Boulder-Mercury group were acquired by location through Sanford R. Davis etal. of Boulder Montana, were included under lease and option to the Elkhorn Mining Company, a Montana corporation, with offices at Boulder Montana on the 23rd. day of November 1949, such group having been transferred under "Assignment by lessee and optionee for described property" on the 5th day of December 1950 to John I. Listle of Los Angeles California. Lands covered by these claims represented originally stock raising lands with mineral rights therein subject to location under existing mining laws of the united states. Records show that there have been no transfers by deed or other conveyance of any kind titles from Sanford R. Davis etal to any other principals. The map shows proximinity of the property to the Great Northern Railway right of way which crosses the claim group. Attention is invited to apparent conflict between the Boulder-Mercury #4 claim and the New Era and Free Enterprise #6 claims of the adjoining group. The Boulder-Mercury #4 is the senior claim as to date of location so that the area shown as covered by these three locations is valid contained within the Boulder-Mercury #4 only. As regarding a small unimportant segment covered by the Mercury-Connection, Aspen and Free Enterprise #6 claim such segment is valid as to the two later claims".

History

"**** It should be noted that in recent months much detailed geologic field work has been performed through the US Geol Sur. and the US Bureau of Mines, working in conjunction with objectives of the US Atomic Energy Commission. Results of this work cannot be quoted at this time but mapping of the Boulder Locality through these agencies of the government will be available to mining operators interested".

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" *** the uranium claim vein currently under development at the Free Enterprise property is a part of the lode system as yet unexplored and lying within the Boulder Batholith. It is ~~part~~ one of 8 or 10 vertical fissure veins striking northeast-southwest *** "

" The Boulder-Mercury group is likewise contained within the Boulder Batholith and traversed by a vein system similar to that found in the adjoining Free Enterprise group, in fact some of the veins of the Mercury group representextensions ? of part of the lode system found on the Free Enterprise group. All of the rocks found within the Boulder-Mercury group and its immediate vicinity are igneous character , consisting mainly of monzonite in which is found geologic conditions similar to those at the Free Enterprise" ***

Conclusions.

" The Boulder mining claims group in cluded in the area producing the first commercial uranium ores found in Montana and the Pacific Northwest and immediately ~~at~~ adjoins the main producer"

" It is contained in the Boulder Batholith, is traversed by fissure veins ore structure ".

" The vein system contained within the Boulder-Mercury group shows definite radio activity and increased count through scintillometer surveys of vein structures."

--- ---

While a complete copy of the Lewis report is not furnished as it relates to a considerable extent to a scintillometer survey and which is now largely out of date due to later and subsequent development work that has been done on the Boulder-Mercury group. Reference is had however to this particular report which is now on file with government agencies working in Boulder Montana area and under the direction of the AEC.

The excerpts on apply and are here shown as applying n particularly to the Boulder-Mercury group and are considered as pertinent, even though written three or more years ago and prior to the tun el being driven on Nos. 2 & 5 of the Boulder-Mercury group.

It is suggested that the maps made by the USGS and the USBOf M be consulted rather than those made from magnetic surveys.

COPY

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Memorandum of assays from Free
Enterprise Group adjoining
Boulder-Mercury on the west.

On account of no ore having been shipped from the development work done on the Boulder-Mercury Group of Mining claims, these few assays of U_3O_8 recovered from shipments of ore from the Free Enterprise may be indicative of values to be encountered when the development tunnel reaches the main vein of the area and now being driven on Boulder-Mercury Nos. 2 & 5 MW to cross cut the main vein.

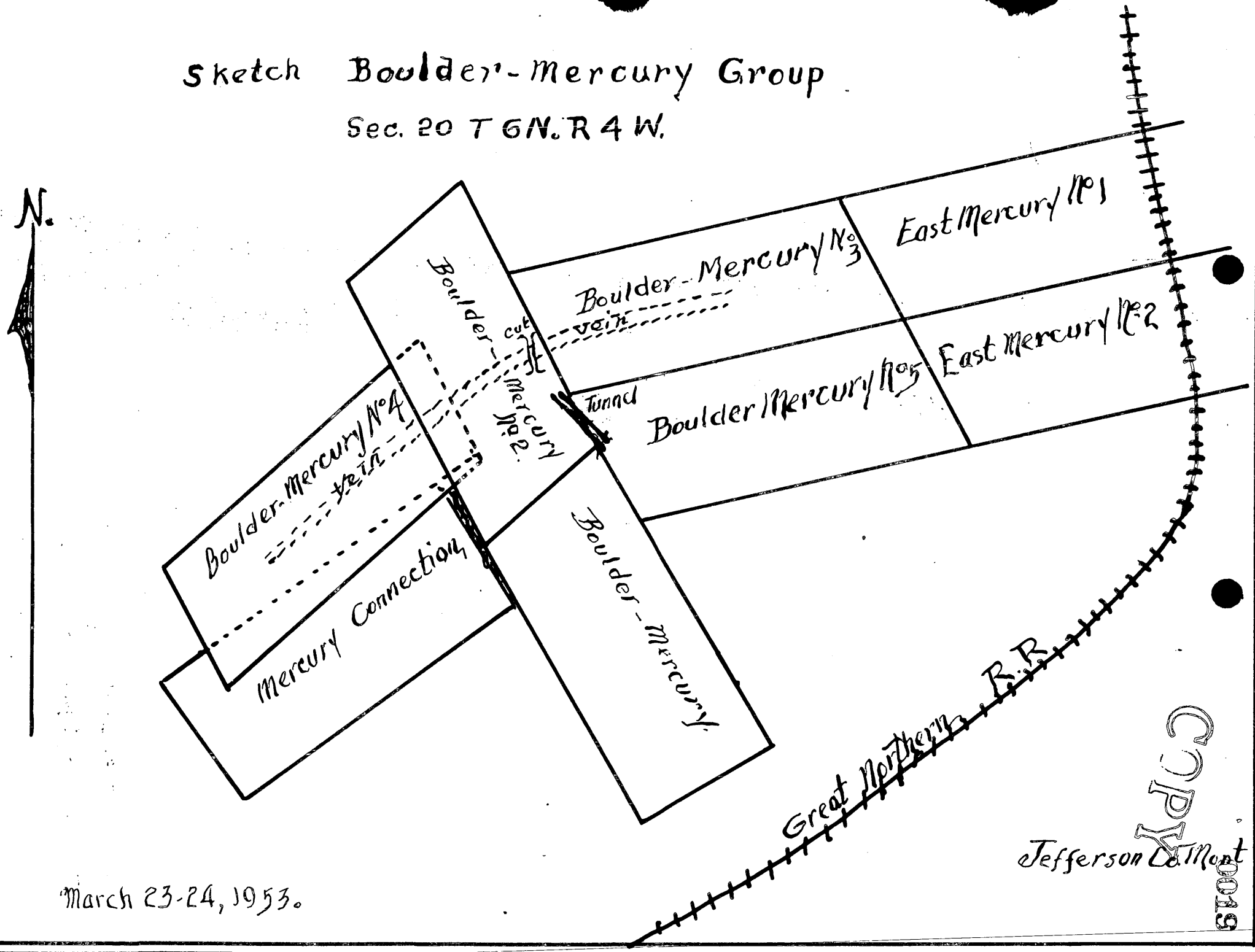
Lot #2	.16	per cent	@ 2.70	lb.		$373.77
Lot #13	1.34	"	" @ 3.50	"		105.30
Lot #51	1.61	"	" @ 3.50	"		147.47
Lot #52	.60	"	" @ 3.50	"		79.55
Lot #65	.15	"	" @ 2.50	"		374.14
Lot # 137	.14	"	" @ 2.30	"		359.82

These assays are not the original assays of shipments which were made to Vitro Chemical Co at Salt Lake City Utah but are taken from a memorandum furnished S.R.Davis by the Elkhorn Mining Co as being some of the ore shipped by that company. It is probable however that a greater amount of the uranium ores will be encountered in the main vein on the Boulder mercury group.

The shipments made by the Elkhorn Mining Co. from the Free Enterprise Group were made from March through September 1951 and no other assays are available at this time.

Sketch Boulder-Mercury Group

Sec. 20 T 6N. R 4 W.



CPA 00019

SANFORD R. DAVIS.
BOULDER - MONT.

PAPERS IN THE MATTER OF THE

APPLICATION

OF

Sanford R. Davis
Box 69
Boulder, Montana.

for

D. M. E. A.

LOAN

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

Defense Minerals Administration
RECEIVED
APR 14 1953

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-2981
Metal or Mineral
Date Received 4-14-53
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: Sanford R. Davis
Postoffice Box 69
Boulder, Montana.

(*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 Boulder-Mercury; Boulder-Mercury #2; Boulder-Mercury #3; Boulder-Mercury #4; Boulder-Mercury #5; Mercury Connection; East Mercury #1; & East Mercury #2. Lode Mining Claims and for other particular descriptions etc. see attached papers under #3 item.

(*b*) State any mine name by which the property is known. Boulder-Mercury Group.

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

(*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. See attached papers under item 3 par. (f)

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 att. papers.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. No production

(*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. Copies of reports and excerpts from others.

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

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

16—66551-1

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore for Uranium bearing ores toward production of U_3O_8

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[X] Money [ ] 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 April 7, 1953

Clyde R. Davis
(Applicant)

By Sanford R. Davis
atty in fact.

Sanford R. Davis

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

SANFORD R. DAVIS
BOULDER - MONT.

COPY

Items in the following pages are referred to by item number and paragraph number of the cover sheet of this application as shown below.

Item No. 1. (a) Name Sanford H. Davis
PO Box 69
Boulder, Montana.

(b-c-d) Not required.

Item No. 2. All papers made in quadruplicate and attached hereto.

Item No. 3. (a) Names of all claims set out on formal application.

(b) Boulder-Mercury Group

(c) Owner by location of Mining claims.

(d) blank

(e) No incumbrances.

(f) Names of claims with book and page record in Jefferson County Montana records.
see page no. _____

Item No. 4. (a) Physical description:
A tunnel whose adit is located on Boulder-Mercury #5 approximately 30' east of the NE. Cor. of Boulder-Mercury #2; the dimensions of this tunnel is 6' X 8' and is projected 295' to the present face northwesterly from the adit. Bearing full scale offset for declination 32E. This present tunnel and from which it is proposed to drive the extension for which this loan is applied for was driven under contract during 1945 and all work was done for use and benefit of the Boulder - Mercury group.
Workings: The claims or group lie N.Easterly from Boulder Montana station on the Great Northern Railroad about 1 mile and easily reached by auto via county road and Widdowed Mine road.

(b) Production: None at present, the tunnel is being driven in big vein on Boulder- Mercury #2 - 3 & 4 claims.

(c) Geologic features: Features are described in the copies of reports and memorandums attached hereto, sketch of group showing relative position of claims, tunnel, cut on vein. Type of ore to be mined is primary and secondary uranium bearing ores;

(d) County road for about ¼ mile from St. Nor. R.R.

PRIVACY ACT OF 1974
EXEMPTION - SECTION

COPY

station and thence over a bulldozed, hill side mine road to adit of present tunnel and shown on sketch of claims; actual survey has not been made for permanent road. Distances to shipping points are shown in Wicks report.

(e) Man power, materials, supplies, water and power are also shown in Wicks report and concurred in by Cooper memorandum.
The accompanying copies of reports cover the geology of the group area and are made a part of this application.

Item 5 (a) For uranium bearing ores;
(b) It is proposed to drive an extension for approximately 300' from the face of the present tunnel driven under contract in 1952 in a Westerly direction to a point where it will intercept the vein at a point approximately 200' in depth under the open cut at top of ridge and should disclose a relatively large ore body. The Tunnel and Open cut together with the proximate vein location are shown on the sketch map. It is contemplated that at least 100 ft. each side of the tunnel and should be driven into claims 3 & 4 of this group. The tunnel extension must be of the same size as the present tunnel.
(c) Work will start about ? . . . . . .
(d) This extension to the present tunnel will be contracted to an experienced miner who owns his own equipment and is capable of successfully completing the extension contemplated and was the contractor on the present work. He owns all the equipment necessary, perfectly familiar wi th all the requirements, the character of the work and the rock formations that are to be encountered.
~~(e)~~ No repairs necessary. In addition to the contractor the work wi ll be personally supervised by the owner and by assisting engineers who will closely check all work as it progresses.

Item No. 6. (a) Estimate of costs are covered in a special sheet headed for this item.
(b) Also covered by special sheet.
(c) Furnished by the contractor.
(d) Furnished by the contractor.
(e) No repairs necessary.
(f) No building necessary at present time.
(g) All workmens compensation, insurance and pay roll taxes are the responsibility of the contractor and paid for by him. Equipment is property of contractor.
(h) Contingencies are shown on special sheet.

COPY

Special Sheet. No. 6
Estimate of costs.

6.--

(a) Estimate of cost for driving 300' extension to present tunnel on Boulder-Mercury Nos. 2 & 5.
300' @ $ 75.00 ..... per foot $ 7500.00
200 75.00 5000.00

(b) Supervision, engineering $.....—
Geology &c. $.....—

(c) Included in contract costs

(d) Owned by contractor

(e) No rehabilitation necessary, Contractor furnishes all materials necessary or required.

(f) No new buildings necessary at this time. No fixed improvements to be made at present time.

(g) Contractor assumes all repair costs together with wages, workmens compensation insurance, payroll taxes in fact every expense except the reports of progress required by the government and required by loan terms.

(h) Miscellaneous expenses not specified in above estimate of costs. $.....—

Totals. $12500.00

Item 7 (a) Yes am prepared to furnish my share as required by loan terms.

(b) By money or [illegible]

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AGREEMENT

THIS AGREEMENT made and entered into this 20th. day of February 1953, by and between John I. Listle, party of the first part, and Sanford R. Davis and Clyde R. Davis, parties od the second part, Witnesseth;

WHEREAS some controversy has arisen between the parties hereto as to whether the party of the first part has performed the provisions of that certain assignment made and entered into on the 5th. day of December 1950, wherein the Elkhorn Mining Company, a corporation, assigned to the party of the first part a portion of that certain lease entered into on the 23rd. day of November 1949 between the parties of the second part and the Elkhorn Mining Company, a corporation, as to the following described property.

Name of Lode claim	Jefferson County Record.		
	Book	Page	Instrument No.
Boulder-Mercury	45	353	55067
Boulder-Mercury #2	45	391	56286
Boulder-Mercury #3	45	392	56287
Boulder-Mercury #4	45	393	58034
East Mercury #1	46	549	65919
East Mercury #2	46	550	65920
Mercury Connection	46	552	65922
Boulder-Mercury #5	46	551	65921

And WHEREAS the parties are desirous of settling said controversy, and WHEREAS, the party of the first part has executed unto the parties of the second part an assignment of said lease and lease insofar as the above described property is concerned, NOW THEREFORE, in consideration of the premises it is mutually agreed that the said assignment executed by the party of the first part unto the parties of the second part has been delivered to Ralph J. Anderson attorney, 517 Power block, Helena Montana, to be held by him on the following conditions, namely, that if, the said party of the first part, or his assigns, commences driving the tunnel heretofore commenced on the above described property and has commenced development work by continued driving of said tunnel, on June 1, 1953, then the escrow agent shall not deliver the said release and assignment to the parties of the second part. If the said party of the first part, or his assigns has not delivered satisfactory evidence to the escrow agent of the commencement of said development work on the first day of June 1953, then he shall deliver said assignment and release unto the parties of the second part.

IT IS MUTUALLY AGREED that the parties of the second part may apply to any governmental agency they so desire, for a loan for development of the above described property and if such loan is made available on or before June 1, 1953 then the parties of the second part agree to make the proceeds available to the party of the first part or his assignees, for the development of the above described property and if such funds are thus available it shall be deemed to be a performance of the obligation on the part of the party of the first part or his assignees, and he shall commence development within 30 days after the receipt of notice of granting of such loan, or in any event by JUNE 1, 1953 and the party of the first part agrees to reimburse to the second parties such monies expended in the actual securing of a loan from governmental agency.

IT IS FURTHER MUTUALLY AGREED that if the party f the first part, or his assignees, continues the development work on said tu nnel with reasonable diligence until it is driven an additional 300' then the said lease agreesment and assignment of lease hereinbefore referred to shall be deemed to be in good standing and subject then to the terms and provisions thereof as now written (underscored words initialed by SRD and JIL) and the release executed herewith and held in escrow shall be immediately be returned to the party of the first part, or assigns, but if said development work does not continue with reasonable dilligence then the escrow

agent is authorized, upon the happening of such even[illegible] to deliver said assignment and release unto the parties of the second part.

It is further agreed that if at any time during this agreement r said original contract and assignment thereof to the first party, said first party orn his assigns , should make application for government loan for purposes of development of said property that the second party or parties agree to immediately upon request sign a subordination agreement to the government.

IN WITNESS WHEREOF the parties hereto have set their hands on the day and year first above written.

Signed J.I.Listle
Party of the First Part.
Clyde R. Davis
By S.R.Davis Attorney in Fact
Sanford R. Davis,
Parties of the Second Part.

State of Montana

ss.

County of Lewis & Clarke

On this 24th day of February 1953 before me, Ralph J. Anderson, a Notary Public for the State of Montaba, personally appeared J.I.Listle and Sanford R. Davis, known to me to be the same persons whose names are subscribed to the withon instrument and acknowledged that they executed the same.

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

Signed Ralph J. Anderson
Notary Public for the State of Montana
residing at Helena Montana,
My commission expires Jan 29 1956.

Seal

COPY

RELEASE

KNOW ALL MEN BY THESE PRESENTS that the undersigned J.I.Listle, party of the first part, and Sanford R. Davis and Clyde R.Davis, parties of the second part, WITNESSETH That for and in consideration of the sum of one dollar (1,00) paid to the party of the first part by the parties of the second part, the receipt whereof is hereby acknowledged, does hereby sell,assign, transfer and set over unto the parties of the second part that certain assignment of lease entered into on the 5th day of December, 1950, by and between the Elkhorn Mining Company, a corporation, therein called first party and J.I.Listle, second party, describing therein the following described property:

Name of Lode Claims	Jefferson County Record		
	Book	Page	Instrument No.
Boulder-Mercury	45	353	55067
Boulder-Mercury #2	45	391	56286
Boulder-Mercury #3	45	392	56287
Boulder-Mercury #4	45	393	58034
East Mercury No. 1			
East Mercury No. 2			
Mercury Connection			
Boulder-Mercury #5			

COPY

The acceptance and delivery of this instrument to the parties of the second part shall operate to release, terminate and end the said assignment of lease above mentioned and the lease on the above described property which was assigned to the party of the first part by the Elkhorn Mining Company, a corporation, which lease was dated on the 23rd. day of November, 1949, insofar as the above described lands and premises are concerned.

IN WITNESS WHEREOF THE PARTY of the first part has hereunto set his hand on this 20th day of February, 1953.

Signed John I. Listle

~~The acceptance and delivery of this instrument to the parties of the second part shall operate to release, terminate and end the said assignment of lease above mentioned and the lease on the above described property which was assigned to the party of the first part~~

State of Montana
County of Lewis and Clark ss.

On this 20th. day of February, 1953, before me Ralph J. Andersen, A Notary Public for the State of Montana, personally appeared J.I.Listle, known to me to be the same person whose name is subscribed to the within instrument, and acknowledged t that he executed the same.

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

Signed Ralph J. Andersen
Notary Public for the State of Montana
Residing at Helena, Montana.
My commission expires Jan. 29, 1956

(Official Seal)

COPY

COPY

Names of claims of the Boulder-Mercury Group of mining Claims together with the record of location as shown by the records of Jefferson County Montana.

NAME OF LODE LOCATIONS	JEFFERSON COUNTY RECORD		
	Instrument Index	Book	Page
Boulder-Mercury	55067	45	353
Boulder-Mercury No. 2	56286	45	391
Boulder-Mercury No. 3	56287	45	392
Boulder-Mercury No. 4	58034	45	393
East ~~[illegible]~~/Mercury No. 1	~~[illegible]~~ 65919	46	549
East Mercury No. 2.	65920	46	550
Boulder Connection	65922	46	552
Boulder-Mercury No. 5	65921	46	551

M. R. COOPER
CONSULTING GEOLOGIST
BUTTE, MONT.

NATIONAL REGISTER
OF SCIENTIFIC AND
SPECIALIZED PERSONNEL.
FORMERLY OF THE
DEPARTMENT OF THE
INTERIOR.

APARTMENT 3
FIRST NATIONAL
BANK BUILDING
TWX-BT6

March 24, 1953.

COPY

BOULDER ~~#2~~ MERCURY GROUP
Section 20, Twp. 6 N. Rge.4 W.
Montana Meridian. Jefferson Co.

GROUP

The Boulder-Mercury Group consists of the following named claims; The Boulder-Mercury; Boulder-Mercury Numbers 2 - 3 - 4 - 5, and Mercury Connection. All un-patented mining claims.

ORE

Primary & Secondary uranium bearing ores veins may also carry gold and silver in small amounts.

TITLE

Locations made on Public Domain surface is subject to Taylor Grazing Act. All claims located by Sanford R. Davis etal. of Boulder, Mont.

RECORD OF FILING CLAIMS

Boulder-~~Mercury~~ Mercury	Jan. 14 1941	# 55067	Recorded	Book	45	Page	353
Boulder-Mercury #2	Jan 29 1942	# 56286	"	"	45	"	391
" " #3	" " 1942	#56287	"	"	45	"	392
" " #4	" " 1942	#58034	"	"	45	"	393
" " #5	Dec 29-1949	#65921	"	"	46	"	551
Mercury Connection	Dec. 29 1949	#65922	"	"	46	"	552

MAPS

A sketch map of the claims, not made to scale,; Reference also had to a recent US Mineral Survey of the Free Enterprise group for patent of that group which has been approved by the Surveyor General of the GLO but which application for patent has not yet been completed. The sketch map which accompanies this report shows the approximate position of the claims listed above from the ground record; the location of the tunnel adit and the open cut crosscutting the largest vein in the area. The U.S.Geol. Sur. also have mapped the area.

SHIPPING STATION

Boulder Montana on the Great Northern Rail Road. Distant about 1 Mile SW.

ROADS

Rough country road, said to be County controlled with a preliminary bulldozed road leading to tunnel site on claims. A hill-side road must be built to connect with County road, a low cost operation.

SANFORD R. DAVIS
BOULDER - MONT.

NATIONAL REGISTER
OF SCIENTIFIC AND
SPECIALIZED PERSONNEL.
FORMERLY OF THE
DEPARTMENT OF THE
INTERIOR.

M. R. COOPER
CONSULTING GEOLOGIST
BUTTE, MONT.

APARTMENT 3
FIRST NATIONAL
BANK BUILDING
TWX-BT6

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ELEVATIONS

Tunnel adit on B-M Nos. 2 & 5 — About 5200.

ASSESSMENT WORK

All assessment work for Fiscal Year of 1952/53 completed.

TERRAIN

Rolling Hills; a few scattered trees (Pinus Limbus) of no commercial value; rocky reef outcrops easterly and westerly across the groups; surface stony and covered by sage brush and range grass.

WATER

None except that which may be encountered by mining operations.

POWER

Montana Power Co. high lines available at about a mile.

TUNNEL

The present tunnel, the adit of which, is on BM #5 and thence into BM #2 and designed to crosscut the large vein on #2 at or about the point where the open cut shown on the sketch was constructed during the years of 51/52. Distance from adit to the face is 295 feet; size is 6' X 8' ; No timbering necessary except that at the portal and its approaches.

EXAMINATION

During the month of February 1952, by the writer and an associate, an underground examination and underground inspection of the Free Enterprise group on the west (At Silver Bell Shaft) checking on the 20'-85'-and 150' levels, small veinlets in the granite and monzonite intruded by aplite dikes or sills were observed. Checking at the Silver Bell was done with a scintillometer and with a geiger counter. Water was flowing from both the east and the west end of the level (150 foot); through drill holes and appeared to be coming from a fault near the Silver Bell shaft. Later that same year outcrops on the Boulder-Mercury group were checked with the scintillometer and the readings were considerably higher on the surface than those taken underground on the adjoining group. Yesterday (March 23) accompanied by the same mining engineer; another inspection was made on the Boulder-Mercury group for the purpose of getting the approximate locations of this group from stakes on the ground; Claims not having been surveyed by a US Mineral Surveyor for patent and further to make an approximate location of the present 295' tunnel adit on the Boulder-Mercury Nos. 2 & 5 claims— for record on the sketch attached hereto. From the inspection made in this tunnel and the opencut at the crest

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of the hill we found that the geology of the area is approximately the same as that set-out in the report of Mr. Frank R. Wicks when he reported on this group in May 1951 and need not be repeated here. We may say however that generally it consists of a granititic block (the Boulder Batholith) with some coarse granite showing, monzonite, & intrusions or flows locally called aplite which vary in thickness.

In checking the veins and outcrops, found that they generally run easterly and westerly across the group and attention was centered on the open cut at the top of the ridge through B-M #2 near the discovery point. This cut starting in solid granite walls shows a measured width of 135' of vein matter between the walls, with a depth of approximately 20' below the point of discovery. This cut was very active on the scintillometer and the tunnel started on B-M #5 near the SE corner of #2 should cut the vein on B-M #2near the westerly end of the open cut at a depth of approximately 200' when it is driven straight with the adit for another 300' from the present face of the tunnel though the distance may be less when paying ore is encountered.

The accompanying sketchis not made to scale and is only to show the relative position of the claims with reference to the large vein running across this group in an east-west direction; the map or sketch also shows the approximate location of the open cut on this vein; also marks the present adit of the tunnel.

Briefly it is recommended that the tunnel as shown on B-M # 2 & 5be extended from the present face another 300' to intercept the main or large vein and when intercepted, laterals should be driven at least 100' both easterly and westerly from the tunnel walls, it should be driven into Nos. 3 & 4 if funds will allow; At this distance there should be ample back, approximately 200' and should show good ore values as the inspection at the opencut indicates the possibility of a very large ore body.

The contract for the tunnel extension should be let as soon as possible.

Respectfully submitted,

M. R. Cooper

M. R. Cooper, Consulting Geologist.

SANFORD R. DAVIS
BOULDER - MONT.

REPORT OF EXAMINATION
BOULDER-MERCURY GROUP
LODE MINING CLAIMS.
Jefferson County Mont.
By
Frank R. Wicks, Consulting
Mining & Industrial Engineer.
Los Angeles, California.

COPY

Date of Examination — May 13-16 1951 Report May 22, 1951.
Prepared for Western Mines Inc.
Name of Property — Boulder-Mercury Group
Type of ores — Primary & Secondary uranium minerals with considerable silver, some gold and some mercury and lead in spots.
Names of Claims — Boulder-Mercury: Boulder-Mercury Nos. 2-3-4 & 5 East Mercury Nos. 1 & 2 and Mercury Connection.
Area — eight mining claims, about 145 acres. Contiguous.
Location of property — One mile northerly from Boulder Montana.
Legal Location — A portion of section 20 T 6n R 4 W. MPM, mostly in north half of that section. Nearest reference point is NW Cor. of section 20.
Title: — Unpatented claims held by location by Sanford R. Davis etal.; subsequently leased to the Elkhorn Mining Company and later subsequently leased to John I. Listle of Los Angeles. Calif. whose present address is _____ _____. Lease and sub-lease carry option to purchase and provides for payment of royalties to apply in part to purchase p yments.
Assessment work — Completed for current fiscal year to hold claims until June 30, 1952.
Maps: — Reference is had to maps made by Qade V. Lewis & approximately correct as to location of Boulder-Mercury group based on preliminary survey: The claims have not been surveyed by a US Mineral Surveyor in the manner required for procurement of patent title but this is not required to maintain unpatented status.
Mining District — Known as the Boulder district, also a part of the Elkhorn District, for which boundaries have not been established.
Federal Reservations — Properties are apparently outside of the Elkhorn Forest Reserve, but are subject to the provisions of the Taylor Grazing Act for cattle Grazing.. This does not in any way interfere with normal mining operations.. No school land, railroad land or Indian reservations involved except for right or way of the Great Northern Railroad through the lower extreme end of East Mercury Nos. 1 & 2.
Shipping point: — Boulder, a station on the Great Northern Railroad ½ to 3/4 of a mile from the property. Loading track and two loading ramps at station. Railroad runs accoss the end of two of the claims.
Roads — Boulder is on paved US Highway No. 91. Road to property is good. County maintained. Road on property to reach principal working places will have to be built involving less than a mile of hillside grading of easy construction, plus two or three culverts and a cattle guard.
Road Distances. — Boulder to Helena via Highway 30 Miles
Boulder " Butte " " 34 "
Boulder to Salt Lake as destination of ore shipments 500 "

COPY

Elevations — At Boulder 4900' ASL
At central position of property 5200'

Terrain — Rolling hills; sparsely timbered, few rock outcrops, surface covered with range grass.

Climate — Snow and freezing weather December to March; ordinary underground operations can be carried on throughout the year after property is equipped to do so.

Power — Nearest electric power line is about one mile away (at this report) It is understood that power will be available when wanted.

Water — None on the property now. Water for mining purposes can be develpoed by shallow well in main canyon when desired. Underground operations will likely be dry above the 5000'ASL elevation. The properties are in the watershed of the Boulder River which flows southwesterly through the county.

Timber; — None on the property, can be purchased as green mine dimension timber or logs from nearby.

Labour — Usually ample and good in this area. Mostly American native miners living in this vicinity.

Camp Equipt. — None now and none required.

Mine Equipt. — None.

Operations — No production as yet, no underground at date of report, Assessment work, surface tracking; in progress--Bulldozer excavation. (for tunnel site)

Gen'l Operation conditions — Exceptionally good.

General Description of the property

A description of the Boulder-Mercury property should include a mention of the adjoining Free Enterprise Group. Together these properties represent about 30 claims or something more than 550 acres ***

The claims of the two groups lies on the southerly slope of round top foot hills which flank the Elkhorn Range, bordering a wide section of the valley of the Boulder River. The main line of the Great Northern Railroad runs through this valley, enroute to Helena from Butte. There is no substantial difference in the two groups as to surface appearance or principal geological characteristics. As the situation is explained to me, the property was considered larger than the Elkhorn Mining Company cou d develop with facilities and funds available so they leased a part to the Sunshine Mining company and another part to John I. Listle while the Elkhorn continued to operate the original Elkhorn Mine (Silver-Lead). A Located some 60 (61) miles NE (SE)of Boulder. Subsequently the Sunshine gave up their lease on the Free Enterprise group and turned that group back to the Elkhorn. (Further reference is made to this later in this report).

HISTORY

There has been no production from the Boulder-Mercury group; the Free enterprise workings have produced 350 to 400 tons of ore to this date. A consideration of prior circumstances is necessary to understand the present situation.

In the year 1941, the ground covered by some of the Boulder-Mercury claims and the adjoining area now known as the Free Enterprise group were located by Sanford R. Davis and others, prospecting showed some gold and silver ore in the outcrops. One shaft 85' deep and another shallow onefollowed veins that showed some values. A general cessation of gold mining stopped these operations and the properties were dormant until 1949 when they were relocated by the same claimants. Some of the outcrops showed spots of cinnabar, an ore of mercury, which brought about some exploration but no production. It was then discovered that waste dumps at the shaft of the Free Enterprise group showed uranium ore as determined by geiger counter tests.

This discovery led to active development at one shaft and subsequent detailed survey of both groups of claims by means of scintillometer equipment. Based upon these exploratory surveys, the Sunshine Mining Company took a lease on the Free Enterprise group and equapped the old Blue Bell shaft. The company deepened the shaft did some exploratory work, encountered water in the shaft at 100' below the surface,

COPY

made a trial shipment, and then surrendered their lease. The Elkhorn Company under the management of Wade V. Lewis took over and began to produce and ship ore in a small way. Separately the Elkhorn Company had some location and assessment work on outlying claims completed. Doing so, developed new showings of uranium on their ground, but the ore produced have come directly and entirely from the Silver Bell shaft, and from a section between 20' and 100' below the surface, within 150 ' from the shaft.

Development on the Boulder Group.

There is no underground work on the Boulder-Mercury group (at the date of this report) There are discovery pits, prospect holes and open cuts on all of the claims but no real development has been attempted. The largest cut is a dozier trench about 100 feet long, 8 feet deep, and 3/5 feet (at the time of this report). This crosscuts one of the principal outcrops near the center of the Boulder-Mercury No. 2 claim and at the end line of Boulder-Mercury No. 4. Several smaller cuts were recently made to supplement the older test pits made during prior history of the property. At no place is there more than 8 ft. of depth attained as yet.

GEOLOGICAL CONDITIONS

The whole area may be generalized as a granititic block, probably a part of the well known Boulder Batholith, though there are a large number of well defined intrusions of a coarse grained softer monzonite. This monzonite is higher in feldspar component than the better known quartz-monzonite of the Butte Districe and far more absorbent as to mineralization. These intrusions appear as bold continuous outcrops having a general east-west trend and near vertical dips. The principal one traverses the length of the Boulder-Mercury 3 claim as a stong outcropping rib, thence it is noted with less prominence westerly and southwesterly through Boulder-M. Nos.2 & 4 and thence through the Free Enterprise group for ½ mile. Approximately paralleling this principal structure, there are a series of others on the southerly side. Portions of these, likewise, show strong croppings but less continuous. The main intrusion or dike, is the most noticible and, hence, has been giventhe most of the attention as to scintillometer surveys and exploratory work, it is less likely to carr y mineralization to an important degree because of the certain conditions herein described. There are a great number of places where the monzonite and the bordering granititic rocks have been cut by later intrusions of small traverse dikes, or fllws, of a fine grained, hard lamphyophyre type of rock which is locally classified as aplite. These rocks is found in this dikes and as thin flat sills squeezed out into cracks in the main structure, and is usually found accompanied by quartz veins of varying size. These conditions, as described, exist on both of the properties mentioned h rein, and very likely to extend to nearby other areas. The same general situation may be noted in several places north and east of Boulder, presumably around the fringees of granititic batholith, in intrusive rocks near, but not in, the older sediments. To be attractive, so far as uranium min eralization is concerned, the full sequence of rock formation described must be found.

1-Limestone or dolomitic beds
2-Massive granite
3-Monzonite or porphyrititic intrusions
4-Aplite, felsite or pegmatite intrusions.
5-Quartz or quartz-calcite fissure fillings bordering the aplite.
Base metal and precious metals in ghe fissure veins, adjacent to, but bot in the matrix or aplite accompanied by absorption of both primary and secondary minerals in the softer monzonite or dispersed grains or crystals.

More than likely the aplite, the quartz and the mineralization occurr ed simultaneously with the lesser phase continuing for some time, or as long as the structure would permit the circulation of magmatic solutions. The geological remarks here as interposed as a possible guide in the conduct of future development for the reason that blind or unskilled prospecting for ores in these areas could be disappointing.

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ORES and ORE TYPES.

There is no tonnage od developed commercial ore on the Boulder-Mercury group None could be reasonably expected at the surface, other than in isolated spots. Experience on the adjoining property shows pretty well that commercial ores of uranium minerals does not exist near than about 50 feet below the surface. A little gold value is noted in the vein croppings and frequent spots of very high silvr as native silver and as sulphide material are found near the surface. However, fair and to very good radio-activety is shown along and in proximity of all of the monzonite croppings. This is particularly noted where there is a cross break or an aplite or quartz rib in evidence in or alongside of the monzonite. The cropping of the main dikes of monzonite need not be strong at these points, some of the broken sections appear to be the most radio-active, and in some places. location s and trend of dikes may be traced by detrital by scintillometer readings.

At the surface and in test trenches, it is found that the geiger counter is not appreciably excited unless the probe is within a foot or two of the radio active mineral. Underground, influenced by the mass, this is not very useful as a guide to ore concentrations. Onm the other hand the scintillometer is both sensetive and directional on the surface and underground and the readings are more nearly a reflection of the richness of mineralization than an indication of mass or volume of the ore in the vicinity. Because of these circumstances, any future work at the outset must be guided by what is known of the relationship between surface activity and actual underground commercial ore in the workings of the adjoining property as well as understanding the basic conditions under which uranium ores are or were deposited.

In this structure, on either or both of the properties, the primary uranium ore is uraninite occurring with or in proximity of Pyrargyrite, an ore of silver. Here there seems to be a well defined difference between uraninite and pitch-blende. What we have d escribed as uraninite is dense blackm fine crystals in small masses. The Pitch-Blende takes on a brownish color, is in larger crystals, sometimes as much as ¼ inch in diameter. Frequently the alteration products are autunite and torberite with a variety or other c mbinations such as uranophane and uranyl phosphate etc.

Autunite is found to a limited extent in the fissures and more generally as disseminated green and blackish-green grains well out into the monzonite. Generally there is no important mineralization at the surface, but in places where the ore is hard there is some mineralization that can be visually noted and that excites the counters within 3 or 4 feet from the surface. From there down, in the mine workings of the Silver Bell claim there is a gradual increase in the uranium mineralization with both primary and secondary types in place. Autunite is found at 80' below the surface which is as deep as I was able to observe conditions. It presumably continues to some point below the permanent water level at 120 feet. There s not enough information available as to this type of ore in this type of structure to predict whether a zone ofincreased mineralization or what is known as secondary enrichment will occur immediately below the water level such as is often found in base mineral deposits. In all probability, such enrichment does not occur with uranium bearing minerals because of the slight water solubility of the altered forms.

Incidentally the tiny red spots that are evident in the Boulder-Mercury group outcroppings, have beed determined as prousite, an ore of silver, They look so much like Mercury ore, cinnabar, that the red color gave rise to the erroneous name Mercury when the claims were located.

A fairly extensive scintillometer survey had allweady been made on the main ledge or cropping w ich is mentioned as passing through northerly claims of the Boulder-Mercury group. I checked through the readings to be satisfied that the survey figure s were approximately correct, or at least within a reasonable range of accuracy.

It is my considered opinion that the parallel ledges to the south, which are less prominent are likely to contain a higher average mineral content, and are hence are m more attractive for initial prospecting development. This is again referred to later in the report.

Sampling.

During my examination no average samples (accurate) could be taken, as there was no commercial ore in sight to sample. Numerous specimens were saved for study and these were used in the preparation of this report

Market.

The sole buyer for uranium ore is the Atomic Energy Commission, or agents of the commission. Shipments from the adjoining (Free Enterprise) Group are being sold to VITRO, as an authorized buyer, and sent to Salt Lake City to a new plant there. there is no fixed schedule of prices published by the commission and recently revised upward. Te price range is from $3.50 to 8.00 per pound of contained U_3O_8 on cars at shipping point. For estimating purposes, value of these ores at Boulder can be figured at about $7. per pound of U_3O_8 although these prices may not be realised until the operations reach a depth where the mineralization is mainly primary uraninite and pitchblende. These ores are very desirable for treatment by the processers and the commission, and I am assured that there will be a market and no reduction in the price schedule within the foreseeable future. Carnotite ores take a lower price range, but ther is no probability that any carnotite will be encountered in this structure.

Conclusions and recommendations.

I have been able to get no accurate information on the subject, but am of the opinion that operations up to date on the adjoining property (F-E) have as yet been unprofitable if we figure the expenditures against the total receipts from the sale of ore, some 350/400 tons of ore averaging about 4 lbs o uranium oxide per ton.

High costs incident to shaft operation with inadequate equipment and the relative shallow depth of the workings are the main contributing factors. Dealing with little known ore and a poorly understood geological problem are probably responsible for the failure of the Sunshine Co. to get production. The present management is good and future results should be better. There is good reason to believe that development on the Boulder-Mercury group will show at least as good ore at comparable depth and gradually improving grade with increased depth. The silver content of the ore on this property may be enough to be important.

I am advised that the VITRO company have arranged to pay for the silver in uranium ores, which has heretofore not been done. I would not expect that sizable amounts of commercial ore above 100' depth from the surface nad hence would not favor any appreciable ~~drilling~~ expenditure for drilling or other exploration above that horizon. The first objective should be to reach a depth of 100' or more at the best possible location and them map future program upon the result shown by initial work. Vertical drill cores are of course the accepted method of exploration for large ore bodies; In this case I would expect that such drilling to be inconclusive, if not quite dissapointing. Diagonal or sloping drill work will be much better if the drill is directed to crosscut the structure. Taken as a whole it appears to me that a crosscut tunnel furnishes the best initial results for development work. For this purpose I have selected two feasible points for portal tunnels, either one of which would be decided upon for first work. An adit tunnel at either of these sites, directed more or less true North would cut four or five monzonite dikes in about 800 feet in length and at that length it would have 200' feet of depth below the croppings of the main dike. However as previously stated I believe that the softer and less prominent dikes between the proposed portal and the main dike are the most likely nto produce the best ore. so that commercial ore could be found within the first 300'/350' of tunnel work. This tunneling could be prededed by some horizontal drilling if desired. One hole of about 800'; two of 500/600' would be indicated. However the cost of the drilling would total more than half the cost of the tunnel and I personally favor spending the money on the tunnel work without prior drilling. The main reasons are that the drill work takes considerable time and when it is finished, no one is satisfied with the results whether they were very good or very bad. The whole situation justifies the recommendation for development on a limited scale and the tunnel method is my preference.

The surface showings and the underground conditiond on the adjoining property are good. Tye initial work will serve to prove the perticular property and its value and it will also tend to show what may be expected throughout the district where the same geological conditions are to be found. In that country, at this time of the year, ordinary tunnel work in granite and monzonite should be done on contract, after

preliminary portal and surface work is done and a road to the site is built. But little timber will be required and a good crew should make 300' of tunnel per month. When ore is encountered it will then be an easy matter to instal sorting arrangements and track bins for shipping. No license is requiree for exploration and mining of uranium ore but when the ore is ready to sell, then both the producer and the buyer must be licensed which is merely the application to the commission at the proper time.

It is understood that engineers representing the Atomic Energy Commission have recently examined this area. The results of their work is not known to me. It had been reported however, that the data can be obtained from the Spokane office of the commission if one can show a legitimate reason for getting it. The Department of the Interior Surveyors were on the ground resetting section corners a few days ago. This is a new project, in a country where there has been little uranium production in the past. However improved methods of exploration and a substantially higher market price with a more or less guaranteed market for all that can be produced, all serve to reduce the gamble involved in initial operation.

If good ore is encountered as can be reasonably expected that the project should be quite profitable as well as quite simple to operate.

I appreciate all the courtesies extended to me by all concerned at Boulder during the progress of the examination work.

Respectfully submitted

signed

FRANK R. WICKS
Consulting Mining Engineer.
Registered Engineer No. 2370
California.

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A FEW EXCERPTS TAKEN FROM THE REPORT OF
Wade V. Lewis.

These excerpts taken from the report of Wade V Lewis, President of the Elkhorn Mining Company, and also the head of the "FREE ENTERPRISE uranium group of mining claims are literal quotes and from the report signed by Lewis and dated _ _ _ _ _ (no date but probably made during December 1950 as that date appears on a flyleaf).

Summary

"The Boulder Mercury group of Lode Mining claims is contained within a Montana area recently discovered to contain commercial uranium ores, both secondary and primary in occurrence and representing the first known occurrence and unaninite to be found in fissure type veins within the monzonite of the Boulder Batholith. It immediately adjoins the Free Enterprise uranium group being operated by the Elkhorn Mining Company and inc udes favorable for uranium ore exploration"

Location

"The Boulder-Mercury mining claim group consists of eight unpatented claims situated in Township 6 North Rage 4 West of the Montana Principal Meridian in Jefferson County, near Boulder Montana, a county seat. It represents one contigious claim group as depicted on the map attached" "It lies within one mile in a westerly direction from the Great Northern Railway depot and ore loading ramps at Boulder. It is situated in a recognized productive mining area midway between Helena and Butte Montaha and borders on Highway #91.

Property

"Consists of the following named claims; Boulder-Mercury; Mercury Connection; Boulder-Mercury #2; Boulder-Mercury #3; Boulder-Mercury #4; Boulder-Mercury #5; East Mercury #1 and East Mercury #2 all contained within T 6N R 4W MPM Jefferson County Montana"

Status.

All claims contained in the Boulder-Mercury group were acquired by location through Sanford R. Davis etal. of Boulder Montana, were included under lease and option to the Elkhorn Mining Company, a Montana corporation, with offices at Boulder Montana on the 23rd. day of November 1949, such group having been transferred under "Assignment by lessee and optionee for described property" on the 5th day of December 1950 to John I. Listle of Los Angeles California. Lands covered by these claims represented originally stock raising lands with mineral rights therein subject to location under existing mining laws of the united states. Records show that there have been no transfers by deed or other conveyance of any titles from Sanford R. Davis etal to any other principals. The map shows proximinity of the property to the Great Northern Railway right of way which crosses the claim group. Attention is invited to apparent conflict between the Boulder-Mercury #4 claim and the New Era and Free Enterprise #6 claims of the adjoining group. The Boulder-Mercury #4 is the senior claim as to date of location so that the area shown as covered by these three locations is valid contained within the Boulder-Mercury #4 only. As regarding a small unimportant segment covered by the Mercury-Connection, Aspen and Free Enterprise #6 claim such segment is valid as to the two later claims".

History

"***** It should be noted that in recent months much detailed geologic field work has been performed through the US Geol Sur. and the US Bureau of Mines, working in conjunction with objectives of the US Atomic Energy Commission. Results of this work cannot be quoted at this time but mapping of the Boulder Locality through these agencies of the government will be available to mining operators interested".

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" *** the uranium claim vein currently under development at the Free Enterprise property is a part of the lode system as yet unexplored and lying within the Boulder Batholith. It is ~~xxxx~~ one of 8 or 10 vertical fissure veins striking northeast-southwest *** "

" The Boulder-Mercury group is likewise contained within the Boulder Batholith and traversed by a vein system similar to that found in the adjoining Free Enterprise group, in fact some of the veins of the Mercury group representextensions ? of part of he lode system found on the Free Enterprise group. All of the rocks found within the Boulder-Mercury group and its immediate vicinity are igneous character , consisting mainly of monzonite in which is found geologic conditions similar to those at the Free Enterprise" ***

Conclusions.

" The Boulder mining claims group in cluded in the area producing the first commercial uranium ores found in Montana and the Pacific Northwest and immediately ~~xx~~ adjoins the main producer"

" It is contained in the Boulder Batholith, is traversed by fissure veins ore structure ".

" The vein system contained within the Boulder-Mercury group shows definite radio activity and increased count through scintillometer surveys of vein structures."

--- ---

While a complete copy of the Lewis report is not furnished as it relates to a considerable extent to a scintillometer survey and which is now largely out of date due to later and subsequent development work that has been done on the Boulder-Mercury group. Reference is had however to this particular report which is now on file with government agencies working in Boulder Montana area and under the direction of the AEC.

The excerpts on apply and are here shown as applying n particularly to the Boulder-Mercury group and are considered as pertinent, even though written three or more years ago and prior to the tun el being driven on Nos. 2 & 5 of the Boulder-Mercury group.

It is suggested that the maps made by the USGS and the USBOf M be consulted rather than those made from magnetic surveys.

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Memorandum of assays from Free
Enterprise Group adjaining
Boulder-Mercury on the west.

On account of ore having been shipped from the development work done on the Boulder-Mercury Group of Mining claims, these few assays of U_3O_8 recovered from shipments of ore from the Free Enterprise may be indicative of values to be encountered when the development tunnel reaches the main vein of the area and now being driven on Boulder-Mercury Nos. 2 & 5 ~~NW~~ to cross cut the main vein.

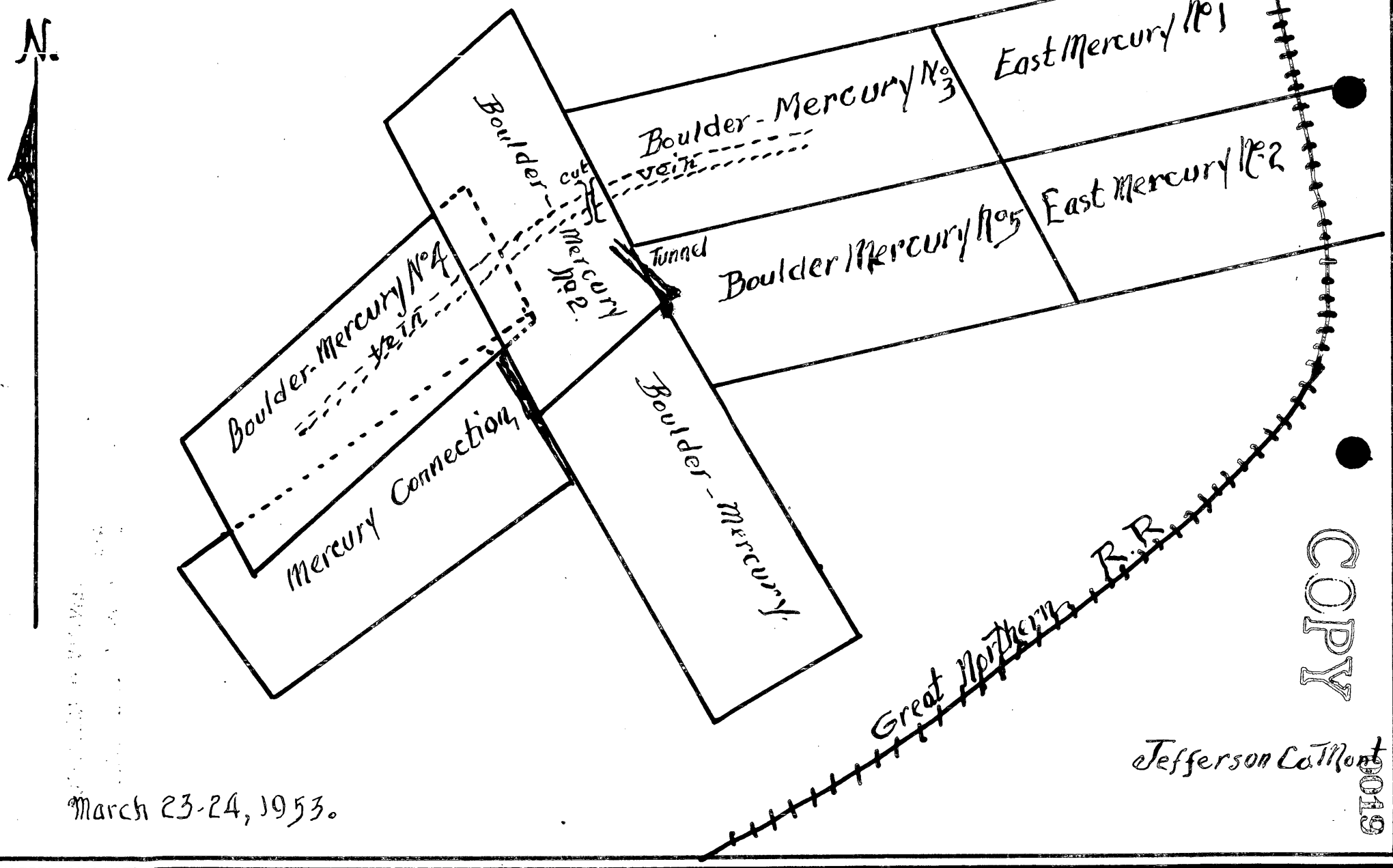
Lot #2	.16	per cent	@ 2.70	lb.	$373.77
Lot #13	1.34	"	" @ 3.50	"	105.30
Lot #51	1.61	"	" @ 3.50	"	147.47
Lot #52	.60	"	" @ 3.50	"	79.55
Lot #65	.15	"	" @ 2.50	"	374.14
Lot # 137	.14	"	" @ 2.30	"	359.82

These assays are not the original assays of shipments which were made to Vitro Chemical Co at Salt Lake City Utah but are taken from a memorandum furnished S.R.Davis by the Elkhorn Mining Co as being some of the ore shipped by that company. It is probable however that a greater amount of the uranium ores will be encountered in the main vein on the Boulder mercury group.

The shipments made by the Elkhorn Mining Co. from the Free Enterprise Group were made from March through September 1951 and no other assays are available at this time.

Sketch Boulder-Mercury Group

Sec. 20 T 6N. R 4 W.



March 23-24, 1953.

Jefferson Co. Mont.

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SANFORD R. DAVIS.
BOULDER - MONT.

PAPERS IN THE MATTER OF THE

APPLICATION

OF

Sanford R. Davis
Box 69
Boulder, Montana.

for

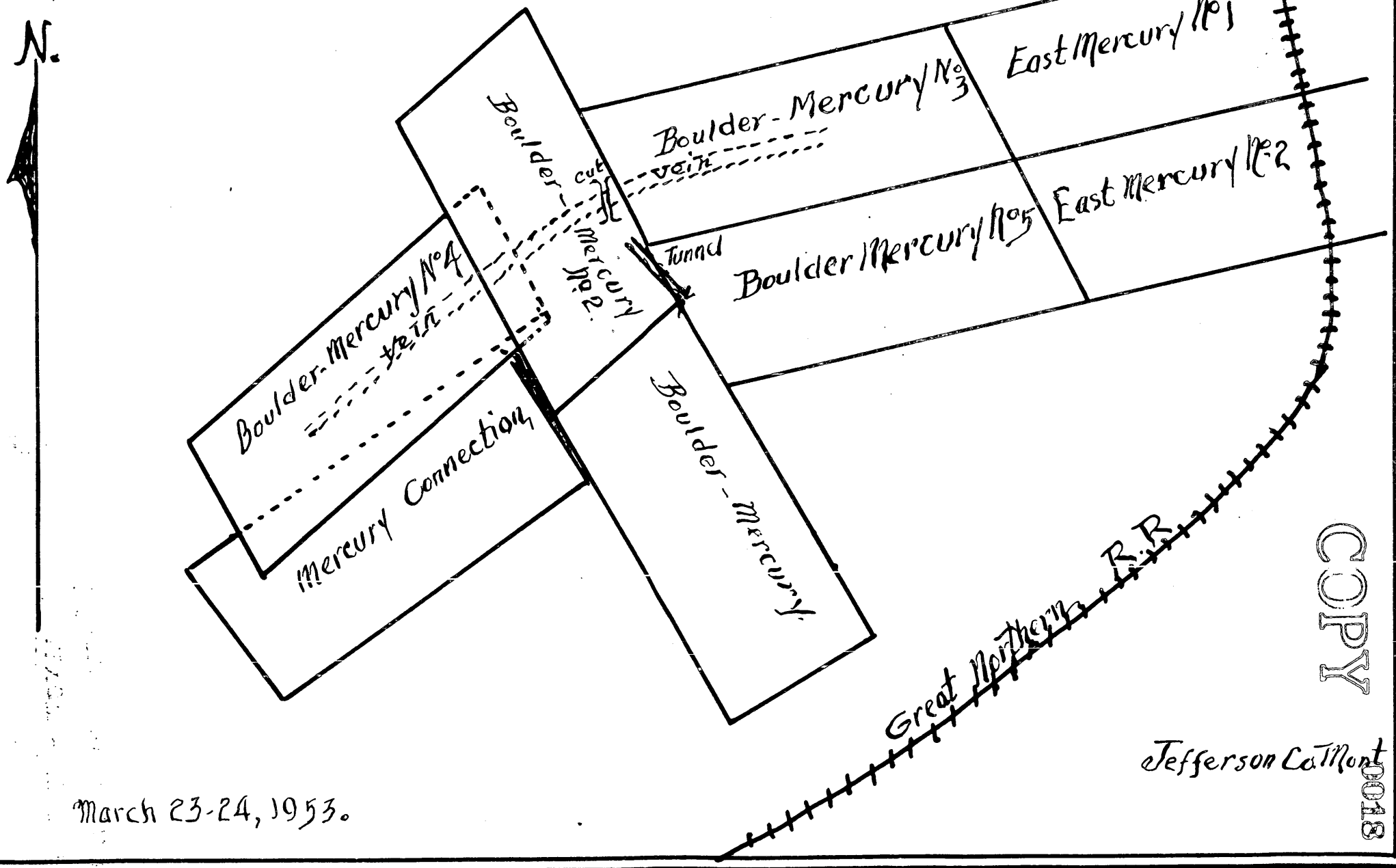
F. H. H. A.

LOAN

MEA-2981

Sketch Boulder-Mercury Group

Sec. 20 T 6N. R 4 W.



March 23-24, 1953.

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Hon. C. O. Mittendorf,
Administrator.
Defense Minerals Administration (DMEA)
Washington 25, D.C.

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1 copy of Maps enclosed