DMA Form 1

DEFENSE MINERALS ADMINISTRATION
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Routing Slip

To: Mr Lyon Date 10-24-51

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Ax Exploration

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

Routing Slip

To:	Mr. Barr	Date	8/6/51
To:	Mrs. Horne	Date	8/15/51
To:	Reports & Records	Date	AUG 17 1951
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IN REPLY REFER TO:
G-MD-RPB

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

October 31, 1951

Memorandum

To: James A. Barr, Sr., Chairman, Nonmetallics Commodity Committee

From: Robert P. Bryson, Nonmetallics Commodity Committee

Subject: DMA-1922X - Hugh S. & Owen S. Jacobs
($108,000-Expl.)

Reference is made to the subject application for government participation in exploration for quartz crystal in a deposit located in Valley County, Idaho, to a field team report of September 11, and to my memorandum of September 25.

Through correspondence recently with Mr. Thor H. Kiilsgaard, I have been advised that the deposit covered by the subject application is a bedrock deposit rather than a residual deposit, and that conditions assuredly are unfavorable for its development. Consequently, I would suggest that the recommendations contained in the field team's report of September 11 be followed and that the application be denied.

Robert P. Bryson

Robert P. Bryson

FILE COPY
SURNAME:

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

370

A. E. C

Working
Barr
Brown

OCT 2 6 1951

Hugh S. Jacobs & Owen S. Jacobs
1940 East 21st, South
Salt Lake City, Utah

Subject: DMA-1922X - Quartz Crystals
Helmick Property, Valley Co., Ida

Gentlemen:

Your application for aid for an exploration project on quartz crystal deposit located in Valley County, Idaho, and docketed as DMA-1922X, has been reviewed by this office.

Exploration projects as defined in D-5, Regulations Governing Government Aid in Defense Exploration Projects, must be confined to work necessary to search for unknown or undeveloped sources of strategic minerals; the work must be confined to a reasonable delineation and sampling of the ore and may not include work prosecuted primarily for mining or preparation for mining.

Projects approved by the Defense Minerals Administration must, in its judgment, show definite promise of yielding material of acceptable grade, physical character and specifications, in quantities that will significantly improve the mineral supply position for National Defense.

A careful study of your proposal, including examination by DMA Field Team, revealed the following:

1. The work program proposed would be essentially a mining operation and would not qualify under D-5.

2. The geology of the deposits indicate that only a minor amount of strategic crystal might be obtained.

3. Because of the occurrence of most of the crystals in consolidated rock, it is unlikely that the deposit could support an economic operation.

Under these circumstances, your application for exploration aid to the extent of 90% of $108,000 is denied. Should additional information become available, we would be glad to have you resubmit your proposal for consideration.

Unless we receive a request within 30 days, we will consider the case closed.

Sincerely yours,

SIGNED

Tom Lyon, Director
Supply Division

RWASKEY:mp
10-24-51
cc: Administrator's reading file
Field Team, Region II (2)
DMA Docket File
Mr. Barr

FILE COPY
SURNAME:

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

370

Yorkey
Barr

OCT 25 1951

not stripped in R. R. & C.

Memorandum

To: Reports and Records Unit, DMA

From: Chief, Industrial Minerals Branch, DMA

Subject: ~~DMA-1922X - Hugh A. & Owen S. Jacobs (Belnick property)~~
Valley County, Idaho
Commodity: Quartz crystals
Amount: 90% of $108,000

Denial recommended because:

1. The work proposed is essentially mining and would not qualify under MO-5.

2. Field Team examination indicates that the deposit would in all likelihood produce only a minor amount of crystal.

3. Because of the occurrence of the crystals in consolidated rock, it is very unlikely that the deposit could support an economic operation.

Attached:

1. Memo from M. P. Bryson 9/25/51.
2. Transmittal ltr from Region II with one copy of Field Report.
3. Form MF-103 with additional information, attachments, 4 pencil maps of property and one regular map.
4. Review of application in duplicate.

James A. Barr, Jr.

Approved: SIGNED

Director, Supply Division
RWAS:EY:mp
10-24-51
cc: Administrator's reading file
Field Team, Region II (2)
DMA Docket File
Mr. Barr

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION 370
WASHINGTON 25, D. C.

OCT 25 1951

a, E, e

Memorandum

To: Reports and Records Unit, DMA

From: Chief, Industrial Minerals Branch, DMA

Subject: DMA-1922X - Hugh S. & Owen S. Jacobs (Helmick property)
Valley County, Idaho
Commodity: Quartz crystals
Amount: 90% of $108,000

Denial recommended because:

1. The work proposed is essentially mining and would not qualify under MO-5.

2. Field Team examination indicates that the deposit would in all likelihood produce only a minor amount of crystal.

3. Because of the occurrence of the crystals in consolidated rock, it is very unlikely that the deposit could support an economic operation.

Attached:

1. Memo from R. P. Bryson 9/25/51.
2. Transmittal ltr from Region II with one copy of Field Report.
3. Form MF-103 with additional information, attachments, 4 pencil maps of property and one regular map.
4. Review of application in duplicate.

James A. Barr, Sr.

Approved:

Acting Director, Supply Division

IN REPLY REFER TO:
G-MD-RPB

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

September 25, 1951

Memorandum

To: James A. Barr, Sr., Chairman, Nonmetallics Commodity Committee

From: Robert P. Bryson, Nonmetallics Commodity Committee

Subject: DMA-1922X - Hugh S. & Owen S. Jacobs
($108,000-Expl.)

Reference is made to the subject application for government participation in exploration for quartz crystal in a deposit located in Valley County, Idaho, and to a field report of September 11 on this application. It is noted that the field team recommends denial of the application on the grounds that economically it is not feasible because of mining costs and the small number of acceptable crystals that can be expected to be produced.

While the proposal is not attractive from an investment point of view I concur in your belief that the likelihood of discovery of quartz crystal in at least small amounts, while slight, is none the less real and that limited exploration by trenches or test pits rather than the more pretentious hydraulicing proposed would be appropriate.

It would seem to be in order for you to discuss by telephone with Mr. Weissenborn the desirability of his reviewing with the applicant a modest program of exploration by trenches or test pits, in the hopes that some production of useable quartz crystal may be developed during the emergency period.

Robert P. Bryson

Robert P. Bryson

IN REPLY REFER TO:
G-MD-RPB

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

September 25, 1951

Memorandum

To: James A. Barr, Sr., Chairman, Nonmetallics Commodity Committee

From: Robert P. Bryson, Nonmetallics Commodity Committee

Subject: DMA-1922X - Hugh S. & Owen S. Jacobs
($108,000-Expl)

Reference is made to the subject application for government participation in exploration for quartz crystal in a deposit located in Valley County, Idaho, and to a field report of September 11 on this application. It is noted that the field team recommends denial of the application on the grounds that economically it is not feasible because of mining costs and the small number of acceptable crystals that can be expected to be produced.

While the proposal is not attractive from an investment point of view I concur in your belief that the likelihood of discovery of quartz crystal in at least small amounts, while slight, is none the less real and that limited exploration by trenches or test pits rather than the more pretentious hydraulicing proposed would be appropriate.

It would seem to be in order for you to discuss by telephone with Mr. Weissenborn the desirability of his reviewing with the applicant a modest program of exploration by trenches or test pits, in the hopes that some production of useable quartz crystal may be developed during the emergency period.

Robert P. Bryson

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
So. 157 Howard Street
Spokane 4, Washington

September 12, 1951

Through: Executive Secretary

Memorandum:

To: Tom Lyon, Chairman, Coordinating Committee

From: Field Team, Region II

Subject: DMA Docket 1922 X, Jacobs Quartz Crystal Deposit, Valley,County, Idaho.

Enclosed are two copies of Form MF-103 with attached docket material, and the original and three copies of a report on the subject property by Thor H. Kiilsgaard, Geologist, U.S.G.S. Mr. Kiilsgaard examined the Jacobs Quartz property accompanied by Mr. Hugh Waesche, Quartz Specialist of the U. S. Army Signal Corps. The field reviewers are of the opinion that while the Jacobs deposit may contain quartz crystals of piezo-electric quality the overall cost of mining these crystals, the relatively minor amount of acceptable crystals which might be produced, coupled with the possibility of shattering the crystals during mining precludes the possibilities of successful mining operations.

For the above reasons the review team recommends denial of the application.

The Field Team concurs with the review team and recommends that the application be given no further attention.

By Field Team, Region II

A. E. Weissenborn

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

M. E. Volin

M. E. Volin, Member
(U. S. Bureau of Mines)

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D.C.
SEP 18 9 05 AM '51

Enclosures

cc: Exec. Sec.
U.S.B.M. Spokane

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DEFENSE MINERALS
ADMINISTRATION
WASHINGTON, D. C.
SEP 18 9 05 AM '51

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
So. 157 Howard Street
Spokane 4, Washington

September 11, 1951

Memorandum

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

From: Thor H. Kiilsgaard, Geologist, U.S. G. S., Region II

Subject: DMA Docket 1922X
Jacobs Quartz property
Valley County, Idaho

RECOMMENDATIONS

It is recommended that the application for a DMA loan, filed on Form MF-103, by Messrs. Hugh S. Jacobs and Owen S. Jacobs, on a quartz property in Valley County, Idaho, be denied.

INTRODUCTION

The Jacobs quartz property was examined by Mr. Hugh Waesche, geologist of the U.S. Signal Corps, Engineering Labratories, Fort Monmouth, New Jersey, and the writer on August 15, 1951. Approximately one half day was devoted to the examination, which consisted of walking over the surface and preparing a rough Brunton and pace survey to tie in various mineralized exposures in the bulldozed pit area. Inasmuch as the property had been idle for over a year, many of the cuts were sloughed, and not too much could be seen in the former working faces. However, the property was previously examined by Mr. Waesche in 1949 when it was undergoing operation, thus Mr. Waesche was able to point out many geologic features that would otherwise have escaped detection. Prior to the visit, an attempt was made to contact Mr. Hugh S. Jacobs and arrange to meet him at the property, but Mr. Jacobs did not arrive on the date of the examination; therefore, the examining team was unable to obtain answers to certain pertinent questions regarding proposed exploration and development of the property.

LOCATION

The Jacobs quartz property is on the west slope of Jug Handle Mountain, approximately at the intersection of sec's. 17, 18, 19, and 20, T. 9 N., R. 4 E., Boise meridian, Valley County, Idaho.

A maze of logging roads in the nearby vicinity of the property makes it very difficult to find. The accessible route to the property might best be described as follows: 9.8 miles south on U.S. Highway 93 from in front of the McCall Hotel, McCall, Idaho, to a junction with a graveled road trending due east; thence east across Long Valley for 2.4 miles to the eastern foothills; thence northerly for 2.5 miles following the foothills to a split in the road at which is a U.S. Forest Service sign pointing to Paddy Flat. At this point take the left hand fork of the road north for one mile to the Jacobs quartz prospect.

PRODUCTION AND MINE WORKINGS

The applicants state that development operations on the property commenced May 15, 1949. From that date until October 14, 1949, a 5-man crew was employed, and also about 800 hours of bulldozer work were expended in open pit development and in bulldozed cuts. These operations are reported to have produced 200 tons of quartz, which was crushed and screened at the pit. The screened quartz was furnished the Otto Buehner Cast Stone Company for brick facing at the Masonic Hospital, Salt Lake City, Utah.

Mine workings consist of a benched area of bulldozed cuts about 200 feet long and 100 feet wide that is located on a steep hillside. Several bulldozed cuts extend beyond the benched area. During mining operations, a small jaw-crusher was apparently installed on one of the upper benches where cobbed quartz was hand fed to the crusher from muck pushed up by the bulldozer. The crushed quartz was then screened and passed into a chute extending down the bench bank where it was loaded into trucks.

GEOLOGY

The Jacob quartz deposit occurs in a small roof pendant of tactite and micaceous schist that is bounded by granitic rocks of the Idaho batholith. Tactite, a coarse-textured garnet epidote rock, forms the bulk of the roof pendant, although one small exposure of green micaceous schist was noted on the northern side of the roof pendant. The tactite zone strikes about N. 45° W., and is about 50 feet wide in the pit area. It may be traced along the strike for about 300 feet, beyond which it is concealed by dense brush and overburden. The operators report that float from the zone may be traced for three quarters of a mile to the southeast.

Within the pit area there are at least 3 small quartz veins ranging from a few inches in thickness to a maximum of 3 feet. These quartz veins are typical hydrothermal quartz veins commonly found in

granitic rocks of the Idaho batholith. Wall rock adjacent to the veins is quite altered and contains much limonite and gougy clay minerals. Some portions of the quartz veins appear to be quite crushed by faulting. The quartz is slightly milky in color although some is quite clear. Some pyrite is reported to occur in the veins although little was seen in the sloughed workings. Judging from the gossan present there must have been considerable pyrite present prior to oxidation of the outcrop area.

Some clear quartz crystals of various sizes occur within the quartz veins, and in some instances in the adjacent tactite. Many of these crystals are coated with a micaceous clay-like material that is possible prophyllite. Mr. Hugh Wasche, in a previous report of the pit workings, describes the quartz crystals in the larger of these veins as:

> "The quartz crystals in the exposed portion of the vein were randomly oriented with no relation to size of crystals which ranged from small individuals approximately 1/2" in length and 1/4" or less in diameter to fairly numerous ones of four to five inches in length and 1 1/2" to 3" in diameter."

Wasche saw one 19 pound crystal and another of unknown weight about 10 inches in diameter and 14 inches in length; the latter was very clear. The applicants report that one perfectly formed crystal was shipped to a Los Angeles company, which, when packaged, weighed 63 pounds.

The randomly oriented quartz crystals in the quartz veins, many of which have broken bases and are coated with prophyllite (?) suggest two stages of quartz mineralization. It is quite probable that the larger and more perfectly shaped quartz crystals were formed during or at some time following the metamorphism of what was probably calcareous sediments but which were metamorphosed to tactite. At a later date, silica from the granitic batholith rocks invaded the roof pendant of tactite to form the aforementioned hydrothermal quartz veins. Invasion of the veins was apparently accompanied by faulting, and possibly followed by additional faulting which disturbed not only the original quartz crystals but the host rocks and the quartz veins as well.

COMMENTS

The Jacob's application contained a copy of a letter from Mr. C. H. Schock, Metallurgical Division, U.S. Bureau of Mines, Region IV, which states that a quartz crystal from the Jacobs deposit measured

10 x 11 inches with 6-inch crystal faces. The crystal was badly fractured, probably from a sharp blow given the crystal as it was being dug from the ground. Despite numerous fractures there were several areas in the crystal 2 x 2 x 3 inches in volume that were notable for clarity of quartz and freedom of inclusions, gas bubbles, twinning planes, and phantoms. The letter noted that crystal of this quality probably would meet sepcifications for either optical or piezo-electric quartz.

On the other hand, Mr. Waesche reported that a crystal from the Jacobs property was examined in the U.S. Signal Corps labratory and found to be badly fractured and twinned and completely unusable for radio applications. Commenting further, Waesche noted that one bad crystal did not necessarily rule out the deposit as a possible quartz crystal producer because each crystal mined must be examined individually. He did, however, point out that in normal quartz crystal mining operations about 1000 pounds of quartz is mined for every pound of piezo-electric quality crystal that is produced. Moreover, such mining procedures call for very careful hand-mining operations inasmuch as the slightest jar will fracture the crystals thus rendering them useless. This is one reason why most quartz crystals used by the U.S. Signal Corps are procurred in Brazil where cheap labor is available. It is also one factor that has contributed to making North American quartz deposits uneconomical.

CONCLUSIONS

Randomly oriented quartz crystals having potential piezo-electric qualities may occur in hydrothermal quartz veins in the Jacobs deposit. These crystals have been disturbed by post-mineral fault adjustment and many of them are fractured. Inasmuch as these crystals are embedded in consolidated rock any mining operations would require the use of heavy machinery and/or explosives. Such mining operations would most certainly fracture the bulk of crystals contained in the deposit and render them useless. The high cost of labor would make hand mining of the quartz crystals out of the question even if a fair number of piezo-electric crystals were to be found.

A small tonnage of clear quartz could be produced from the deposit that might be used for ornamental construction purposes, or for other similar purposes, but such quartz could not be considered to be of strategic or critical importance.

DMA-1922X Exploration
Quartz Crystal
Region II

Hugh S. Jacobs & Owen S. Jacobs, Donally, Idaho
The applicant has requested $103,000 for stripping and laying a hydraulic pipe line for washing purposes. The field team should determine if the project has merit from geologic standpoint.

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. DMA-1922

Commodity Quartz Crystal

Total Amount 108,000

Govt. Participation 90%

1. Name and Address of Applicant Hugh S. Jacobs & Owen S. Jacobs
1940 East 21st St. South, Salt Lake City, Utah

2. Location of Property 5 Miles Northeast of Donelly, Idaho
Secs. 17, 18, 19, 20 T9S R4E

3. Mineral or metal Qtz. Crystal Is it listed in Section 9 of MO-5? YES

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application (question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good See Bryson Report, Attached

b) Poor

c) None

d) Don't know—needs field examination

e) Is there an alternative and favorable project?
(If so, attach an explanation)

5. Is the applicant's right to the property clearly stated? NO - Application (question 5, 6, 7)* States "Purchased on contract" Field Team Check

6. If applicant is a lessee, is a copy of the lease attached?

Does the lease have sufficient time to run to cover a future

productive period?

*question numbers are those of MF-103

DMA-1922

7. Are subordination agreements necessary? Apparently Not — However

a) ~~MF=201~~ Field Team should check on this with

b) ~~MF=202~~ Applicant

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower _____

b) Equipment and supplies _____
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* _____

d) Water (question 13)* _____

e) Power (question 13)* _____

Is a field check needed on any of these points? Yes, All of Them

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* Yes

Is a field check needed on this point? Yes

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described? NO

If not, are there sufficient data given so that you can describe the project? NO If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? NO

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? No it Appears to be a production

If not, what part of it is? proposal — Field Team decide what Exploration if any is indicated and try to get a modified proposal from Applicant which will qualify

Is this part a worthwhile exploration project? Field Team Decide

d) Are the cost estimates detailed? NO

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? NO If so, attach a draft.

e) Are the cost estimates reasonable? Insufficient data

f) Should more information be requested from applicant? By Field Team

g) Is a field examination necessary to complete Exhibit A? Yes

11. Exhibit B (question 23-d)*

a) Is it applicable? Yes

b) If so, are sufficient data furnished? NO If so, attach a draft.

c) Is a field check needed? Yes

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable? Yes

b) Sufficient data? NO If so, attach a draft.

c) Are rents and charges reasonable? Insufficient data

d) Is a field check needed? Yes

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data? NO

b) Is the schedule adequate for the work proposed? Insufficient data

c) Is the schedule excessive for the work proposed? — —

d) Are the proposed wages and salaries reasonable? — —

e) Is a field check needed? Yes

14. Exhibit E (question 23-c)*

a) Is it applicable? Insufficient data

b) Sufficient data? —

c) Reasonable? —

d) Field check needed? yes

15. In your judgment, can the proposed work be done in the proposed time? Insufficient data

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? The Application as received does not qualify - However available data appears to indicate that the deposit may have considerable promise - If Field Team finds that the deposit does have merit then try to work out a program with Applicant which will qualify and submit all necessary data for contract purposes with report - Reviewed by: [illegible]

If development or production loan is indicated rather than Exploration furnish Applicant necessary forms and help him submit appropriate proposal

Date 9/14

INT.-DUP. SEC., WASH., D.C. 99009

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. DMA-1922X

Commodity Quartz Crystal

Total Amount 108,000

Govt. Participation 90%

1. Name and Address of Applicant Hugh S. Jacobs & Owen S. Jacobs
1940 East 21st. St. South, Salt Lake City, Utah

2. Location of Property 5 Miles Northeast of Donelly, Idaho
Secs. 17, 18, 19, 20 T9S R4E

3. Mineral or metal Qtz. Crystal Is it listed in Section 9 of MO-5? YES

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application (question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good See Bryson Report, Attached

b) Poor

c) None

d) Don't know—needs field examination

e) Is there an alternative and favorable project?
(If so, attach an explanation)

5. Is the applicant's right to the property clearly stated? NO-Application (question 5, 6, 7)* States "Purchased on Contract" Field Team check

6. If applicant is a lessee, is a copy of the lease attached?

Does the lease have sufficient time to run to cover a future

productive period?

*question numbers are those of MF-103

DMA-1922

7. Are subordination agreements necessary? Apparently Not — However

a) ~~MF-201?~~ Field Team should check on this with

b) ~~MF-202~~ Applicant

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower _____

b) Equipment and supplies _____
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* _____

d) Water (question 13)* _____

e) Power (question 13)* _____

Is a field check needed on any of these points? Yes, All of Them

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* Yes

Is a field check needed on this point? Yes

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described? NO

If not, are there sufficient data given so that you can describe the project? NO If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? NO

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? No it Appears to be a production

If not, what part of it is? proposal - Field Team decide what Exploration if any is indicated and try to get a modified proposal from Applicant which will qualify

DMA-1922

Is this part a worthwhile exploration project? Field Team Decide

d) Are the cost estimates detailed? NO

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? NO If so, attach a draft.

e) Are the cost estimates reasonable? Insufficient data

f) Should more information be requested from applicant? By Field Team

g) Is a field examination necessary to complete Exhibit A? Yes

11. Exhibit B (question 23-d)*

a) Is it applicable? Yes

b) If so, are sufficient data furnished? NO If so, attach a draft.

c) Is a field check needed? Yes

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable? Yes

b) Sufficient data? NO If so, attach a draft.

c) Are rents and charges reasonable? Insufficient data

d) Is a field check needed? Yes

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data? NO

b) Is the schedule adequate for the work proposed? Insufficient data

c) Is the schedule excessive for the work proposed? ✓ ✓

d) Are the proposed wages and salaries reasonable? ✓ ✓

e) Is a field check needed? Yes

14. Exhibit E (question 23-c)*

a) Is it applicable? Insufficient data

b) Sufficient data? 〃 〃

c) Reasonable? 〃 〃

d) Field check needed? Yes

15. In your judgment, can the proposed work be done in the proposed time? Insufficient data

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? The Application as received does not qualify - However available data appears to indicate that the deposit may have considerable promise - If Field Team finds that the deposit does have merit then try to work out a program with Applicant which will qualify and submit all necessary data for contract purposes with report - Reviewed by: [illegible]

If development or production loan is indicated rather than Exploration furnish Applicant necessary Forms and help him submit appropriate proposal

Date 8/14

INT.-DUP. SEC., WASH., D.C. 99009

IN REPLY REFER TO:
G-MD-RPB

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

August 13, 1951

Memorandum

To: James A. Barr, Sr., Chief, Nonmetallics Commodity Committee

From: Robert P. Bryson, Nonmetallics Commodity Committee

Subject: DMA-1922X - Hugh S. Jacobs & Owen S. Jacobs ($108,000-Expl.)

Reference is made to the subject application for government participation (90%) in a proposed exploration project estimated to cost $108,000 for possible quartz crystal (oscillator grade) in the vicinity of McCall, Idaho.

In view of a pending visit to the property by Mr. Waesche of the Squire Signal Laboratory and a U. S. Geological Survey geologist under Mr. Weissenborn, Executive Officer, Region II, I recommend that this application be referred to Region II for review.

Robert P. Bryson

Robert P. Bryson

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. DMA-1922

Commodity Quartz Crystal

Total Amount 108,000

Govt. Participation 90%

1. Name and Address of Applicant Hugh S. Jacobs & Owen S. Jacobs
1940 East 21st. St. South, Salt Lake City, Utah

2. Location of Property 5 Miles Northeast of Donelly, Idaho
Secs. 17, 18, 19, 20 T9S R4E

3. Mineral or metal Qtz. Crystal Is it listed in Section 9 of MO-52? YES

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application (question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good See Bryson Report, Attached

b) Poor

c) None

d) Don't know—needs field examination

e) Is there an alternative and favorable project?
(If so, attach an explanation)

5. Is the applicant's right to the property clearly stated? NO-Application states "purchased on contract" Field Team check
(question 5, 6, 7)*

6. If applicant is a lessee, is a copy of the lease attached?

Does the lease have sufficient time to run to cover a future

productive period?

*question numbers are those of MF-103

DMA-1922

7. Are subordination agreements necessary? Apparently Not — However

a) ~~MF-201~~ Field Team should check on this with

b) ~~MF-202~~ Applicant

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower _____

b) Equipment and supplies _____
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* _____

d) Water (question 13)* _____

e) Power (question 13)* _____

Is a field check needed on any of these points? Yes, All of Them

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* yes

Is a field check needed on this point? Yes

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described? NO

If not, are there sufficient data given so that you can describe the project? NO If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? NO

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? No it Appears to be a production

If not, what part of it is? proposal - Field Team decide what Exploration if any is indicated and try to get a modified proposal from Applicant which will qualify

DMA-1922

Is this part a worthwhile exploration project? Field Team Decide

d) Are the cost estimates detailed? NO

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data? NO If so, attach a draft.

e) Are the cost estimates reasonable? Insufficient data

f) Should more information be requested from applicant By Field Team

g) Is a field examination necessary to complete Exhibit A? Yes

11. Exhibit B (question 23-d)*

a) Is it applicable? Yes

b) If so, are sufficient data furnished? NO If so, attach a draft.

c) Is a field check needed? Yes

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable? Yes

b) Sufficient data? NO If so, attach a draft.

c) Are rents and charges reasonable? Insufficient data

d) Is a field check needed? Yes

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data? NO

b) Is the schedule adequate for the work proposed? Insufficient data

c) Is the schedule excessive for the work proposed? ✓ ✓

d) Are the proposed wages and salaries reasonable? ✓ ✓

e) Is a field check needed? Yes

14. Exhibit E (question 23-c)*

a) Is it applicable? Insufficient data

b) Sufficient data? ✓ ✓

c) Reasonable? ✓ ✓

d) Field check needed? Yes

15. In your judgment, can the proposed work be done in the proposed time? Insufficient data

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? The Application as received does not qualify - However available data appears to indicate that the deposit may have considerable promise - If Field Team finds that the deposit does have merit then try to work out a program with Applicant which will qualify and submit all necessary data for contract purposes with report - Reviewed by: R J Thornley

If development or production loan is indicated rather than Exploration furnish Applicant necessary Forms and help him submit appropriate proposal

Date 8/14

INT.-DUP. SEC., WASH., D.C. 99009

Form MF-102
(April 1951)

U[redacted]DEPARTMENT OF THE INTER[redacted]
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. Dma-1922

Date received 8/3/51

Participation

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 3 1951

Hugh S. Jacobs & Owen S. Jacobs,
1940 East 21st. South,
Salt Lake City, Utah

Name and address of applicant

Date

FILL IN THIS BLOCK

Date of application

Estimated cost

Mineral or metal High grade Crystalline quartz

Percentage of Government participation

Location of mine 14 miles from Mc Call, Idaho and 30 miles from Cascade, Idaho, the county seat of Valley County.

Date of filing MF-100

DMA Docket Number, if available

INSTRUCTIONS

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

THE APPLICANT

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

*2. If a partnership, state names and addresses of partners. Hugh S Jacobs, Owen S.Jacobs, Emmett, Idaho

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

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

*5. Are you the owner or the lessee of the property? Purchased on contract.

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

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

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

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

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

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

16—64067-1

THE PROPERTY

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

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

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

*11. State the present and former names of the property, if any. None

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

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

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. None

15. State in detail how the ore could be shipped and how and where milled. Truck. No milling necessary

*16. History:

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

(*b*) State briefly the known history and production of adjoining and neighboring properties. None

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

*17. Production:

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

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

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

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

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

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

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

THE EXPLORATION

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

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

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

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

THE REQUIREMENTS AND COSTS

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

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

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

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

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

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

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

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

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

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

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

CERTIFICATION

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

Jacobs Bros. (Name of company) By Hugh S. Jacobs (Signature of authorized official)

July 31, 1951 (Date) Mgr. (Title)

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

*Same as footnote on page 1.

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

Question 10 (a) The property is patented government land and the patents were issued before the minerals withholding law was passed, so the mineral rights go with the surface rights. The property is an open cut which we uncovered with a bulldozer. I will draw a sketch of the face of the mountain as best I can.

Question (b) Located on West slope of Jug Handle Mountain about five miles Northeast of Donnelly, Idaho, T9S, R4E about intersections ~~intersection~~ of Secs. 17, 18, 19 and 20. See map enclosed. Both areas are the same.

Question 12. See enclosed map

Question 13. Water on property all season. Plenty for all operating purposes.

Question 16. See general comments.

Question 17. Mine not now in operation. See general comments for past operations.

Question 18. Unlimited amount. See general comments.

Question 19. Answered in general comments.

Question 20. In order to mine this quarts for clear crystals, it will require a complete change in our method of operating. I estimate there will be 100,000 yards of dirt to move to get a face 100 feet hiag to work. This will give us a chance to use water to wash the crystals out so wedo not break them as we have been doing. In moving this dirt we will use trucks and a cat shovel. The dirt removed will be used to make a dam and repair our roads.

We will be required to run a pipe line about 3,000 feet in order to bring the water over the ridge from Deer creek, for washing purposes. This will give us more pressure than we can use.

There will be a lot of crystal that can be used for commercial purposes. All the crystals that are clear are embedded in small fractured crystal and will be used by crushing and screening as we have been doing to date.

At present there is a good market for this grade of quarts. I have contacted several commercial companies who are very anxious for crystals provided they come up to certain standards.

Question 22. See copy of letter from C. H. Schack, United States Department of Interior, Bureau of Mines and a copy of a brief letter summary report of Mr. Vaccaro, geologist of the U.S. Signal Corps. Engineering Laboratories.

Question 23. See attached
Question 24. See attached.

Requirements & Costs

I estimate that in uncovering the face of the ledge we will salvage about $15,000.00 to $30,000 worth of commercail quartz. This estimate is based on the operation of the property to date.

We have sold all of the quartz to date at $35.00 per ton at the mine or $50.00 per ton delivered at the factories. We have not attempted to get clear quartz up to the present. It is therefore difficult to estimate the cost of mining the clear crystals until we can start washing it out.

I would estimate that in the time we have operated there have been found twenty to thirty perfectly formed crystals ranging from 3lbs. to 65 lbs. We crushed one quartz holder that was all shattered that we screened and packed which ran 8½ tons.

Estimated Cost of Equipment

2 Trucks	$10,000.00
Allis Chalmers Shovel	9,000.00
Screens	3,000.00
Crusher	1,000.00
Conveyor	3,000.00
Electric motors	1,000.00
Pipe	3,000.00
Buildings	20,000.00
Sluice boxes	5,000.00
Roncing	3,000.00
Labor	50,000.00
Total	$108,000.00

General Comments

We commenced operations on the property May 16th., 1940. We moved in a bulldozer, crusher and screens. Two engines were used to operate the crusher and screens.

We had a contract to furnish the Otto Rudnick Gem Stone Co. crystal for the Masonic Hospital

It was necessary to construct a road for one mile to the property. We operated until October 15th., 1940. In that time we put in over 800 hours work with the bulldozer. We had five men on the job the entire time. Two hundred tons of crystal was produced in that time for commercial purposes. During these operations several pieces of clear perfectly formed crystals were found.

While we were operating, Mr. Hugh H. Deasche of the U. S. Signal Corps, Engineering Laboratories, Fort Monmouth, N.J. visited the properties and made quite an extensive examination. He promised to furnish us a complete report, but as yet we have not received it. He had only opened the property in two places at the time he was there so he did'nt see it all.

The property is an open cut, which we recovered with a bulldozer. I will draw a sketch of the face of the mountain as best I can.

It was necessary to move from four to ten feet of over-burden to get to the crystal, also a lot of timber and brush. Over 60% of the time spent was in recovering and locating the extent of the deposit. When we ceased operations we had definitely discovered the crystal in five places which I will indicate on a sketch map.

We removed one perfectly formed crystal which I sent to a company in Los Angeles. This crystal weighed 65 lbs. when packed for shipment. A dozen or more others were found that would weigh from two to six pounds which were perfectly formed. I have one at my residence in Salt Lake City which Mr. Deasche says that will weigh about 40 lbs.

The clear crystals are all bedded in small shattered crystal which is sold for commercial purposes. At the time we were working there was no demand for clear so we did a lot of powder work which shattered a lot of clear pieces. Clear pieces were found all the time and showed up at the crusher

In order to get the clear crystal our method of mining would have to be changed. The best method would be a wash system. I will explain how the water may be obtained on the map.

The operation of the property will require the service of five or ten men. The largest expense will be for machinery and pipe to convey the water

When operations of the property was started only crystal for commercial purposes was produced and careful handling was not necessary. We started work where ever we found any signs of crystal. Every outcropping had bulldozers at the top which had to be moved. Under this is a capping of iron ore from two to six feet thick, then a soil overburden of three to four feet, which has to be moved. Every place we attack the iron ore, there was crystal underneath.

The clear crystals found so far are bedded in small shattered crystal quartz which is clear but full of fractures. The leads all seem to lead to the East, but they have the appearance of running together in the mountain

We did more work at No. 3 out cropping than the others. We found quartz boulders that would weigh two tons but they were shattered. After the top layer was removed we never found the white quartz under the iron capping. At this place we drilled down about twenty-five feet and was still in quartz.

To reach the clear crystal it will be necessary to move the side of the hill until we have a bank face to work to. The mountain is very steep so it appears that we can get a forty to sixty foot face then we can see the clear pieces and not ruin them by running over it with the tractor as we have been doing.

There has been large crystals found in the valley 800 feet below where they form, but I think these were float. From the property you can find float for 3/4 mile up the hill.

After we get a face opened, we intend to use water from Bear Creek which is shown on the map, for washing purposes. It will be necessary to build a small reservoir. However there are two good locations for it. One would be gravity, the other would have to be pumped from in the late season. The property contains plenty of timber for this kind of work.

While we were operating gas engines were used to operate the crusher and screens, but the Idaho Power Company has a line one mile west of the property and will build a line to us, if we want it.

The road to the property is fairly good. We can use the dirt we move from the side of the hill, when opening the face of the mine to improve it. In good weather we went out four times with 20 tons to the load as the road is now.

The road shown as forest service road is not too good and may have to be changed in some places to improve the grades. If we work the year round, we will have to construct buildings at the property as the snow in winter gets two to four feet deep. The bad part of the year is the spring months of March, April and May.

When operations of the property was started we were short on finances, so we are now in the red about $4,000.00. This money was put in machinery and payments on the property. We have spent $12,000.00.

The property is patented government land and the patents were issued before the minerals withholding law was passed, so the mineral rights go with the surface rights. We still have $2,000.00 to pay on the purchase price. The next payment is $500.00 and interest at 6% due next April 1st.

If this were a tunnel or shaft mine, I wouldn't feel capable of operating it, however being an open cut operation, I think I have had all experience necessary to handle it. I started contracting, grade with my father when eighteen years of age and have been in road work and construction all my life. I understand the handling of dirt work, setting machinery and building construction.

I am sixty-three years old and have two sons who will work with me. I think I have given you a fairly complete report but if additional information is needed I will try to furnish it.

Yours truly,

Copy of brief letter summary report by
Mr. Hugh Waesche, Geologist of Signal Corps,
Engineering Laboratories, Fort Monmouth, N.J.

"Collected samples from small operation where quartz is quarried for material to be used as a brick facing. Located on the west slope of Jug Handle Mountain about five miles N.E. of Donnelly, Valley County, Idaho, T9S, R4E about intersection of Secs. 17, 18, 19, and 20. Quartz crystal occurred in an altered vein with pyrite, pyrophyllite andsome epidote, with probably clay materials and iron oxides, about two feet in width as part of a zone of alteration extending about thirty feet along a Forest Service Road. The zone was bounded on both sides of the exposure by gray granitic rocks, probably monzonite of the Boulder Batholith. The Geologic Map of Idaho indicates this locality as being in that formation. The quartz crystals in the exposed portion of the vein were randomly oriented with no relation to size of crystals which ranged from small individuals approximately 1/8" in length and 1/4" or less in diameter to fairly numerous ones of four or five inches in length and 1 1/2" to 3" in diameter. Waesche saw one 19 lb. crystal and another of unknown weight about 10 inches in diameter and fourteen inches in length: The latter very clear. These last referenced crystals lend credence to persistent reports of other larger crystals up to 50 and 60 lbs. and one reputedly of 480 pounds. Near one edge of the metamorphosed zone there was a ten inch milky quartz vein typical of those occurring profusely around the perimiter of the Idaho Batholith. It is believed that the zone represents one in which the original quartz veins were formed in the batholith rocks by hydrothermal action and then subjected to physical movement followed by a second more intense hydrothermal alteration. That the quartz is not in its original position is readily noted by the broken bases of the individual crystals covered by the subsequently formed pyrophyllite as well as the random orientation previously mentioned. The vein suggested indistinct zoning but this was not positive asseen in the limited exposure and varied considerably in texture and distribution of contents along the vein. The small working and exposure with heavily vegetated soil cover prevented detailed examination of the most unusual quartz crystal occurrence encountered all summer. Outcrops of Columbia River Basalt occur locally according to the Idaho Geologic map."

Copy of a letter received from the United States Department of Interior, Bureau of Mines

Mr. H. S. Jacobs
1040 East 21st South
Salt Lake City, Utah.

Dear Mr. Jacobs,

We have completed an examination of the quartz crystal you left at this station.

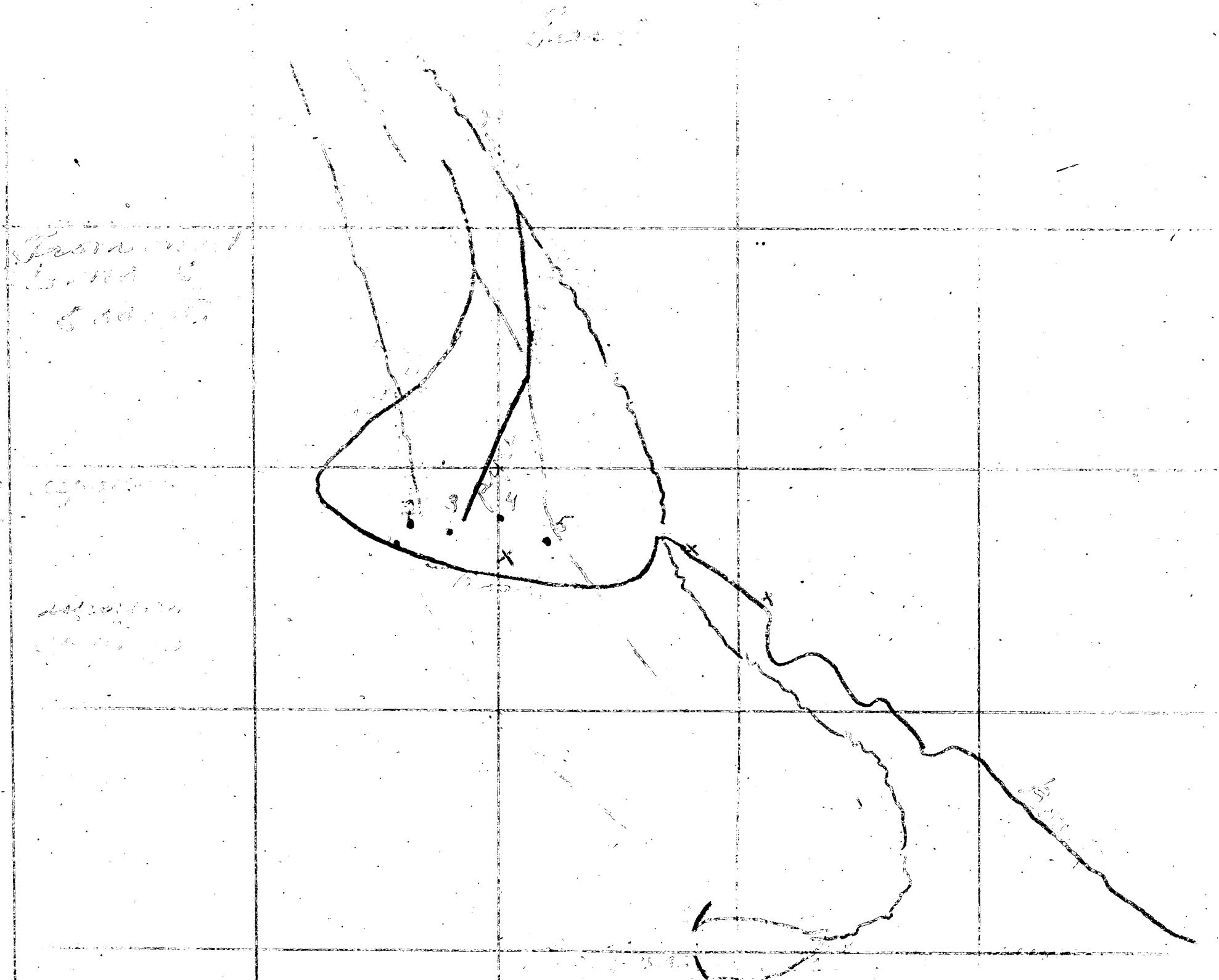
The crystal as delivered was coated with a thin film of clay and iron oxide and measured 10 x 11 inches with 6-inch faces. After cleaning off two of the faces and examining the internal nature of the crystal, we noted that most of the fractures inside the crystal originated from a point on one edge of the crystal. Apparently the fractures are due to a sharp blow given to the crystal while it was being dug from the ground.

Despite the numerous fractures in the crystal several areas 2 x 2 x 3 inches in volume were noted in the crystal. The crystal examined was notable for the clarity of the quartz and its freedom from inclusions, gas bubbles, twinning planes, and phantoms. Unfractured quartz of the same quality as examined probably would meet specifications for either optical or piezo-electric quartz.

We hope this letter answers your questions concerning the quartz crystal submitted for examination.

Sincerely yours,

Signed C. W. Schoch for
D. H. Dingeldey, Chief
Metallurgical Division
Region IV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FILE COPY
SURNAME:

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

Barr
Lyon
Moon

C, E, C, 370

AUG 17 1951

Messrs. Hugh S. Jacobs &
Owen S. Jacobs
1940 East 21st Street, South
Salt Lake City, Utah

Re: DMA-192?X
Quartz crystal

Gentlemen:

Your application is being referred to Mr. A. E. Weissenborn, Executive Officer, DMA Field Team, Region II, South 157 Howard Street, Spokane, Washington, for further information.

Sincerely yours,

Tom Lyon, Director
Supply Division

JF 8/20

RWASKEY:mp
8/14/51

cc: DMA Field Team, Region II (2)
Mr. Lyon
Mr. Barr
DMA Files
210

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

AUG 17 1951

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

Dear Sir:

We attach "Review of Application for Exploration Assistance" on:

Docket No. DMA-1922X - Amount $108,000.00

Commodity Quartz - Crystal

Applicant Hugh S. Jacobs & Owen S. Jacobs

Please expedite the consideration of this application with particular reference to the points raised in the attached "Review."

Very truly yours,

Tom Lyon
Chairman
Coordinating Committee

Lowell B. Moon
For Bureau of Mines

Olof L. Rose
For Geological Survey

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

AUG 17 1951

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South 157 Howard Street
Spokane, Washington

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Chairman
Coordinating Committee

For Bureau of Mines

For Geological Survey

IN REPLY REFER TO:
G-MD-RPB

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

August 13, 1951

Memorandum

To: James A. Barr, Sr., Chief, Nonmetallics Commodity Committee

From: Robert P. Bryson, Nonmetallics Commodity Committee

Subject: DMA-1922X - Hugh S. Jacobs & Owen S. Jacobs ($108,000-Expl.)

Reference is made to the subject application for government participation (90%) in a proposed exploration project estimated to cost $108,000 for possible quartz crystal (oscillator grade) in the vicinity of McCall, Idaho.

In view of a pending visit to the property by Mr. Waesche of the Squire Signal Laboratory and a U. S. Geological Survey geologist under Mr. Weissenborn, Executive Officer, Region II, I recommend that this application be referred to Region II for review.

Robert P. Bryson

August 7, 1951

Mr. Hugh S. Jacobs
1940 East 21st South
Salt Lake City, Utah

Subject: DMA-1922
Re: Exploration Loan

My dear Mr. Jacobs:

Receipt is acknowledged of your application and attachments of July 31, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1922 and referred to Mr. James A. Barr, Chief, Industrial Minerals Branch on August 6, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1922.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams
Chief, Reports & Records Unit

REAdams:jc
cc: Barr
Lyon
Reports & Records File

Form MF-103
(April 1951)

U. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA-1922

Date received 8/3/51

Participation

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 3 1951

Hugh S. Jacobs & Owen S. Jacobs,
1940 East 21st. South,
Salt Lake City, Utah

Name and address of applicant

Date

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D. C.
SEP 19 9 06 AM '51

FILL IN THIS BLOCK

Date of application

Estimated cost

Mineral or metal High grade Crystalline quartz

Percentage of Government participation

Location of mine 14 miles from Mc Call, Idaho and 30 miles from Cascade, Idaho, the county seat of Valley County.

Date of filing MF-100

DMA Docket Number, if available

INSTRUCTIONS

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

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

*2. If a partnership, state names and addresses of partners. Hugh S Jacobs, Owen S.Jacobs, Emmett, Idaho

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16—64067-1

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*11. State the present and former names of the property, if any. None

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

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

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. None

15. State in detail how the ore could be shipped and how and where milled. Truck. No milling necessary

*16. History:

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

(*b*) State briefly the known history and production of adjoining and neighboring properties. None

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

*17. Production:

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

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

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

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

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

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

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

THE EXPLORATION

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

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

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

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

THE REQUIREMENTS AND COSTS

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

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

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

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

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

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

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

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

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

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

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

CERTIFICATION

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

Jacob Bros
(Name of company)

By Hugh S. Jacob
(Signature of authorized official)

July 31 1951
(Date)

Mgr.
(Title)

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

*Same as footnote on page 1.

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

Question 10 (a) The property is patented government land and the patents were issued before the minerals withholding law was passed, so the mineral rights go with the surface rights. The property is an open cut which we uncovered with a bulldozer. I will draw a sketch of the face of the mountain as best Ican.

Question (b) Located on West slope of Jug Handle Mountain about five miles Northeast of Donnelly, Idaho, T9S, R4E about intersections ~~xofxintersection~~ of Secs. 17, 18, 19 and 20. See map enclosed. Both areas are the same.

Question 12. See enclosed map

Question 13. Water on property all season. Plenty for all operating purposes.

Question 16. See general comments.

Question 17. Mine not now in operation. See general comments for past operations.

Question 18. Unlimited amount. See general comments.

Question 19. Answered in general comments.

Question 20. In order to mine this quarts for clear crystals, it will require a complete change in our method of operating. I estimate there will be 100,000 yards of dirt to move to get a face 100 feet hiag to work. This will give us a chance to use water to wash the crystals out so wedo not break them as we have been doing. In moving this dirt we will use trucks and a cat shovel. The dirt removed will be used to make a dam and repair our roads.

We will be required to run a pipe line about 3,000 feet in order to bring the water over the ridge from bear creek, for washing purposes. This will give us more pressure than we can use.

There will be a lot of crystal that can be used for commercial purposes. All the crystals that are clear are embedded in small fractured crystal and will be used by crushing and screening as we have been doing to date.

At present there is a good market for this grade of quartz. I have contacted several commercial companies who are very anxious for crystals provided they come up to certain standards.

Question 22. See copy of letter from C. H. Schack, United States Department of Interior, Bureau of Mines and a copy of a brief letter summary report of Mr. Waesche, geologist of the U.S. Signal Corps. Engineering Laboratories.

Question 23. See attached
Question 24. See attached.

Requirements & Costs

I estimate that in uncovering the face of the ledge we will salvage about $15,000.00 to $30,000 worth of commercail quartz. This estimate is based on the operation of the property to date.

We have sold all of the quartz to date at $23.00 per ton at the mine or $30.00 per ton delivered at the factories. We have not attempted to get clear quartz up to the present . It is therefore difficult to estimate the cost of mining the clear crystals until we can start washing it out.

I would estimate that in the time we have operated there have been found twenty to thirty perfectly formed crystals ranging from 3lbs. to 65 lbs. We crushed one quartz bolder that was all shattered that we screened and sacked which ran 2½ tons.

Estimated Cost of Equipment

2 Trucks	$10,000.00
Allis Chalmers Shovel	9,000.00
Screens	3,000.00
Crusher	1,000.00
Conveyor	3,000.00
Electric motors	1,000.00
Pipe	3,000.00
Buildings	20,000.00
Slush boxes	5,000.00
Fencing	3,000.00
Labor	50,000.00
Total	$108,000.00

General Comments

We commenced operations of the property May 18th., 1949. We moved in a bulldozer, crusher and screens. Gas engines were used to operate the crusher and screens.

We had a contract to furnish The Otto Buchner Cast Stone Co. crystal for the Masonic Hospital

It was necessary to construct a road for one mile to the property. We operated until October 15th., 1949. In that time we put in over 800 hours work with the bulldozer. We had five men on the job the entire time. Two hundred tons of crystal was produced in that time for commercial purposes. During these operations several pieces of clear perfectly formed crystals were found.

While we were operating, Mr. Hugh F. Waesche of the U. S. Signal Corps, Engineering Laboratories, Fort Monmouth, N.J. visited the properties and made quite an extensive examination. He promised to furnish us a complete report, but as yet we have not received it. We had only opened the property in two places at the time he was there so he did'nt see it all.

The property is an open cut, which we uncovered with a bulldozer. I will drew a sketch of the face of the mountain as best I can.

It was necessary to move from four to ten feet of over-burden to get to the crystal, also a lot of timber and brush. Over 60% of the time spent was in uncovering and locating the extent of the deposit. When we ceased operations we had definitely discovered the crystal in five places which I will indicate on a sketch map.

We removed one perfectly formed crystal which I sent to a company in Los Angeles. This crystal weighed 63 lbs. when packed for shipment. A dozen or more others were found that would weigh from two to six pounds which were perfectly formed. I have one at my residence in Salt Lake City which Mr. Waesche seen that will weigh about 40 lbs.

The clear crystals are all bedded in small shattered crystal which is sold for commercial purposes. At the time we were working there was no demand for clear so we did a lot of powder work which shattered a lot of clear pieces. Clear pieces were found all the time and showed up at the crusher

In order to get the clear crystal our method of mining would have to be changed. The best method would be a wash system. I will explain how the water may be obtained on the map.

The operation of the property will require the service of five or ten men. The largest expense will be for machinery and pipe to convey the water

When operations of the property was started only crystal for commercial purposes was produced and careful handling was not necessary. We started work where ever we found any signs of crystal. Every out-cropping had bullquartz at the top which had to be moved. Under this is a caping of iron ore from two to six feet thick, then a soil over-burden of three to four feet, which has to be moved. Every place we struck the iron ore, there was crystal underneath.

The clear crystals found so far are bedded in small shattered crystal quartz which is clear but full of fractures. The leads all seem to lead to the East, but they have the appearance of running together in the mountain

We did more work at No. 3 out cropping than the others. We found quartz boulders that would weigh two tons but they were shattered. After the top layer was removed we never found the white quartz under the iron capping. At this place we drilled down about twenty-five feet and was still in quartz.

To reach the clear crystal it will be necessary to move the side of the hill until we have a bank face to work to. The mountain is very steep so it appears that we can get a forty to sixty foot face then we can see the clear pieces and not ruin them by running over it with the tractor as we have been doing.

There has been large crystals found in the valley 800 feet below where they form, but I think these were float. From the property you can find float for 3/4 mile up the hill.

After we get a face opened, we intend to use water from Bear Creek which is shown on the map, for washing purposes. It will be necessary to build a small reservoir. However there are two good locations for it. One would be gravity, the other would have to be pumped from in the late season. The property contains plenty of timber for this kind of work.

While we were operating gas engines were used to operate the crusher and screens, but the Idaho Power Company has a line one mile West of the property and will build a line to us, if we want it.

The road to the property is fairly good. We can use the dirt we move from the side of the hill, when opening the face of the mine to improve it In good weather we went out four times with 20 tons to the load as the road is now.

The road shown as forest service road is not too good and may have to be changed in some places to improve the grades. If we work the year round, we will have to construct buildings at the property as the snow in winter gets two to four feet deep. The bad part of the year is the spring months of March, April and May.

When operations of the property was started we were short on finances, so we are now in the red about $4,000.00. This money was put in machinery and payments on the property. We have spent $12,000.00.

The property is patented government land and the patents were issued before the minerals withholding law was passed, so the mineral rights go with the surface rights. We still have $2,000.00 to pay on the purchase price. The next payment is $500.00 and interest at 5% due next April 1952.

If this were a tunnel or shaft mine, I would'nt feel capable of operating it, however being an open cut proposition, I think I have had all experience necessary to handle it. I started contracting rial road grades with my father when eighteen years of age and have been in road work and construction all my life. I understand the handling of dirt work, setting machinery and building construction.

I am sixty-three years old and have two sons who will work with me. I think I have given you a fairly complete report but if additional information is needed I will try to furnish it.

Yours truly,

Copy of brief letter summary report by
Mr. Hugh Waesche, Geologist of Signal Corps.
Engineering Laboratories, Fort Monmouth, N.J.

"Collected samples from small operation where quartz is quarried for material to be used as a brick facing. Located on the west slope of Jug Handle Mountain about five miles N.E. of Donnelly, Valley County, Idaho, T9S, R4E about intersection of Secs. 17, 18, 18, and 20. Quartz crystal occurred in an altered vein with pyrite, pyrophyllite andsome epidote, with probably clay materials and iron oxides, about two feet in width as part of a zone of alteration extending about thirty feet along a Forest Service Road. The zone was bounded on both sides of the exposure by gray granitic rocks, probably monzonite of the Boulder Batholith. The Geologic Map of Idaho indicates this locality as being in that formation. The quartz crystals in the exposed portion of the vein were randomly oriented with no relation to size of crystals which ranged from samll individuals approximately 1/2" in length and 1/4" or less in diameter to fairly numerous ones of four or five inches in length and 1 1/2" to 3" in diameter. Waesche saw one 19 lb. crystal and another of unknown weight about 10 inches in diameter and fourteen inches in length: The latter very clear. These last referenced crystals lend credence to persistent reports of other larger crystals up to 50 and 60 lbs. and one reputedly of 450 pounds. Near one edge of the metamorphozed zone there was a ten inch milky quartz vein typical of those occurring profusely around the perimiter of the Idaho Batholith. It is believed that the zone represents one in which the original quartz veins were formed in the batholith rocks by hydrothermal action and then subjected to physical movement followed by a second more intense hydrothermal alteration. That the quartz is not in its original position is readily noted by the broken bases of the individual crystals covered by the subsequently formed pyrophyllite as well as the random orientation previously mentioned. The vein suggested indistinct zoning but this was not positive asseen in the limited exposure and varied considerably in texture and distribution of contents along the vein. The small working and exposure with heavily vegetated soil cover prevented detailed examination of the most unusual quartz crystal occurrence encountered all summer. Outcrops of Columbia River Basalt occur locally according to the Idaho Geologic map."

Copy of a letter received from the United States Department of Interior, Bureau of Mines

Mr. H. S. Jacobs
1940 East 21st South
Salt Lake City, Utah.

Dear Mr. Jacobs,

We have completed an examination of the quartz crystal you left at this station.

The crystal as delivered was coated with a thin film of clay and iron oxide and measured 10 x 11 inches with 6-inch faces. After cleaning off two of the faces and examining the internal nature of the crystal, we noted that most of the fractures inside the crystal originated from a point on one edge of the crystal. Apparently the fractures are due to a sharp blow given to the crystal while it was being dug from the ground.

Despite the numerous fractures in the crystal several areas 2 x 2 x 3 inches in volume were noted in the crystal. The crystal examined was notable for the clarity of the quartz and its freedom from inclusions, gas bubbles, twinning planes, and phantoms. Unfractured quartz of the same quality as examined probably would meet specifications for either optical or piezo-electric quartz.

We hope this letter answers your questions concerning the quartz crystal submitted for examination.

Sincerely yours,

Signed C. W. Schack for
S. R. Zimmerley, Chief
Metallurgical Division
Region IV

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. Dma - 1922

Date received 8/3/51

Participation

Hugh S. Jacobs & Owen S. Jacobs,
1940 East 21st. South,
Salt Lake City, Utah

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 3 1951

Name and address of applicant

Date

FILL IN THIS BLOCK

Date of application

Estimated cost

Mineral or metal High grade Crystalline quartz

Percentage of Government participation

Location of mine 14 miles from Mc Call, Idaho and 30 miles from Cascade, Idaho, the county seat of Valley County.

Date of filing MF-100

DMA Docket Number, if available

INSTRUCTIONS

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

THE APPLICANT

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

*2. If a partnership, state names and addresses of partners. Hugh S Jacobs, Owen S.Jacobs, Emmett, Idaho

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

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

*5. Are you the owner or the lessee of the property? Purchased on contract.

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

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

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

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

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

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

16—64067-1

THE PROPERTY

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

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

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

*11. State the present and former names of the property, if any. None

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

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

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. None

15. State in detail how the ore could be shipped and how and where milled. Truck. No milling necessary

*16. History:

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

(*b*) State briefly the known history and production of adjoining and neighboring properties. None

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

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
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(*a*) Describe the ore or mineral deposits briefly. Quartz Crystals

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CERTIFICATION

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

Jacob Bros. (Name of company)

By Hugh G. Jacobs (Signature of authorized official)

July 31 1951 (Date)

Mgr. (Title)

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I am sixty-three years old and have two sons who will work with me. I think I have given you a fairly complete report but if additional information is needed I will try to furnish it.

Yours truly,

_____

Copy of brief letter summary report by
Mr. Hugh Waesche, Geologist of Signal Corps.
Engineering Laboratories, Fort Monmouth, N.J.

"Collected samples from small operation where quartz is quarried for material to be used as a brick facing. Located on the west slope of Jug Handle Mountain about five miles N.E. of Donnelly, Valley County, Idaho, T9S, R4E about intersection of Secs. 17, 18, 18, and 20. Quartz crystal occurred in an altered vein with pyrite, pyrophyllite andsome epidote, with probably clay materials and iron oxides, about two feet in width as part of a zone of alteration extending about thirty feet along a Forest Service Road. The zone was bounded on both sides of the exposure by gray granitic rocks, probably monzonite of the Boulder Batholith. The Geologic Map of Idaho indicates this locality as being in that formation. The quartz crystals in the exposed portion of the vein were randomly oriented with no relation to size of crystals which ranged from samll individuals approximately 1/2" in length and 1/4" or less in diameter to fairly numerous ones of four or five inches in length and 1 1/2" to 3" in diameter. Waesche saw one 19 lb. crystal and another of unknown weight about 10 inches in diameter and fourteen inches in length: The latter very claar. These last referenced crystals lend credence to persistent reports of other larger crystals up to 50 and 60 lbs. and one reputedly of 450 pounds. Near one edge of the metamorphozed zone there was a ten inch milky quartz vein typical of those occurring profusely around the perimiter of the Idaho Batholith. It is believed that the zone represents one in which the original quartz veins were formed in the batholith rocks by hydrothermal action and then subjected to physical movement followed by a second more intense hydrothermal alteration. That the quartz is not in its original position is readily noted by the broken bases of the individual crystals covered by the subsequently formed pyrophyllite as well as the random orientation previously mentioned. The vein suggested indistinct zoning but this was not positive asseen in the limited exposure and varied considerably in texture and distribution of contents along the vein. The small working and exposure with heavily vegetated soil cover prevented detailed examination of the most unusual quartz crystal occurrence encountered all summer. Outcrops of Columbia River Basalt occur locally according to the Idaho Geologic map."

Copy of a letter received from the United States Department of Interior, Bureau of Mines

Mr. H. S. Jacobs
1940 East 21st South
Salt Lake City, Utah.

Dear Mr. Jacobs,

We have completed an examination of the quartz crystal you left at this station.

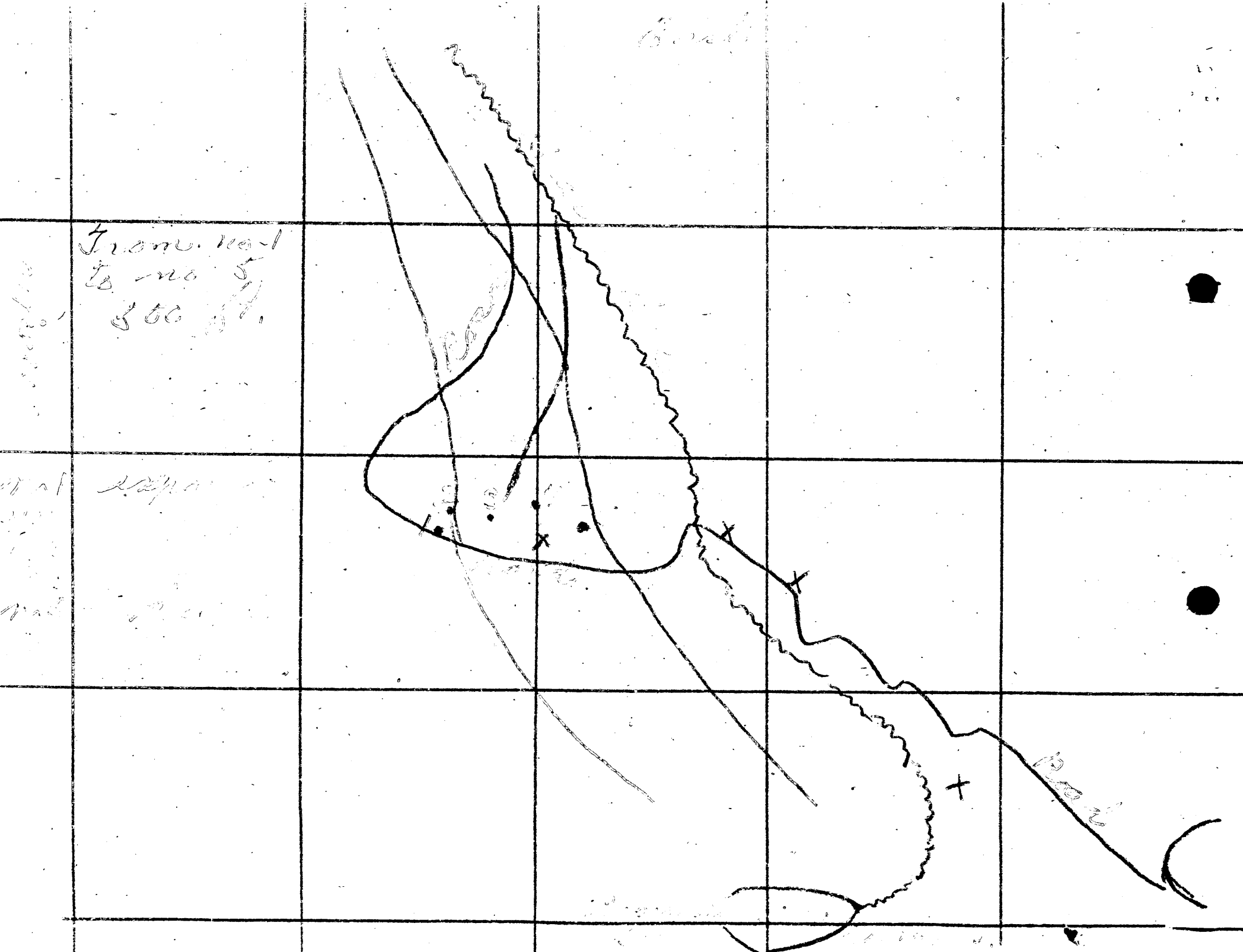
The crystal as delivered was coated with a thin film of clay and iron oxide and measured 10 x 11 inches with 6-inch faces. After cleaning off two of the faces and examining the internal nature of the crystal, we noted that most of the fractures inside the crystal originated from a point on one edge of the crystal. Apparently the fractures are due to a sharp blow given to the crystal while it was being dug from the ground.

Despite the numerous fractures in the crystal several areas 2 x 2 x 3 inches in volume were noted in the crystal. The crystal examined was notable for the clarity of the quartz and its freedom from inclusions, gas bubbles, twinning planes, and phantoms. Unfractured quartz of the same quality as examined probably would meet specifications for either optical or piezo-electric quartz.

We hope this letter answers your questions concerning the quartz crystal submitted for examination.

Sincerely yours,

Signed C. H. Schack for
S. R. Zimmerley, Chief
Metallurgical Division
Region 1V


From no 1
to no 5
see
Beach

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. Dma - 1922

Date received 8/3/51

Participation

Hugh J. Jacobs & Orson S. Jacobs,
1040 East 21st. South,
Salt Lake City, Utah

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 3 1951

Name and address of applicant

Date

FILL IN THIS BLOCK

Date of application

Estimated cost

Mineral or metal High grade Crystalline quartz

Percentage of Government participation

Location of mine 14 miles from McCall, Idaho and 30 miles from Cascade, Idaho, the county seat of Valley County.

Date of filing MF-100

DMA Docket Number, if available

INSTRUCTIONS

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

THE APPLICANT

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

*2. If a partnership, state names and addresses of partners. Hugh J. Jacobs, Orson S. Jacobs, Emmett, Idaho

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

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

*5. Are you the owner or the lessee of the property? Purchased on contract.

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

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

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

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

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

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

16—64067-1

THE PROPERTY

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

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

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

*11. State the present and former names of the property, if any. None

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

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

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. None

15. State in detail how the ore could be shipped and how and where milled. Crude. No milling necessary

*16. History:

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

(*b*) State briefly the known history and production of adjoining and neighboring properties. None

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

*17. Production:

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

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

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

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

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

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

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

See attached

THE EXPLORATION

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

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

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

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

THE REQUIREMENTS AND COSTS

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

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

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

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

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

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

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

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

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

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

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

CERTIFICATION

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

Jacobs Bros. (Name of company) By Hugh S. Jacobs (Signature of authorized official)

July 31, 1957 (Date) Mgr. (Title)

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

*Same as footnote on page 1.

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

Question 10 (a) The property is patented government land and the patents were issued before the minerals withholding law was passed, so the mineral rights go with the surface rights. The property is an open cut which to uncovered with a bulldozer. I will draw a sketch of the face of the mountain as best I can.

Question (b) Located on west slope of Jim Hardin Mountain about five miles northwest of Kennally, Idaho, [illegible] at about intersections [illegible] of Secs. 17, 18, 19 and 20. See map enclosed. Both areas are the same.

Question 18. See enclosed map

Question 15. Water on property all season. Plenty for all operating purposes.

Question 16. See general comments.

Question 17. Mine not now in operation. See general comments for past operations.

Question 18. Unlimited amount. See general comments.

Question 19. Answered in general comments.

Question 21. In order to mine this quartz for clear crystals, it will require a complete change in our method of operating. I estimate there will be 100,000 yards of dirt to move to get a face 100 feet along to work. This will give us a chance to use water to wash the crystals out so we do not break them as we have been doing. In moving this dirt we will use trucks and a cat shovel. The dirt removed will be used to make a dam and repair our roads.

We will be required to run a pipe line about 5,000 feet in order to bring the water over the ridge from Deer Creek, for washing purposes. This will give us more pressure than we can use.

There will be a lot of crystal that can be used for commercial purposes. All the crystals that are clear are embedded in small fractured crystal and will be used by crushing and screening as we have been doing to date.

At present there is a good market for this grade of quartz. I have contacted several commercial companies who are very anxious for crystals provided they come up to certain standards.

Question 22. See copy of letter from G. H. Manch, United States Department of Interior, Bureau of Mines and a copy of a brief letter summary report of Lt. Cassebe, geologist of the U.S. Signal Corps. Engineering Laboratories.

Question 23. See attached
Question 24. See attached.

Requirements & Costs

I estimate that in uncovering the face of the ledge we will salvage about $15,000.00 to $20,000 worth of commercail quartz. This estimate is based on the operation of the property to date.

We have sold all of the quartz to date at $25.00 per ton at the mine or $30.00 per ton delivered at the factories. We have not attempted to get clear quartz up to the present. It is therefore difficult to estimate the cost of mining the clear crystals until we can start needing it out.

I would estimate that in the time we have operated there have been found twenty to thirty perfectly formed crystals ranging from 3lbs. to 65 lbs. We crushed one quartz boulder that was all shattered that we screened and washed which ran 2½ tons.

Estimated Cost of Equipment

2 Trucks	$10,000.00
Allis Chalmers Shovel	9,000.00
Compressor	3,000.00
Crusher	1,000.00
Conveyor	3,000.00
Electric motors	1,000.00
Pipe	3,000.00
Buildings	20,000.00
Sluice boxes	5,000.00
Fencing	3,000.00
Labor	50,000.00
Total	$108,000.00

General Comments

We commenced operations on the property May 10th., 1929. We moved in a bulldozer, crusher and screens. Gas engines were used to operate the crusher and screens.

We had a contract to furnish the Otto Stolzer Gem Stone Co. crystal for the Masonic Hospital

It was necessary to construct a road for one mile to the property. We operated until October 15th., 1929. In that time we put in over 600 hours work with the bulldozer. We had five men on the job the entire time. Two hundred tons of crystal was produced in that time for commercial purposes. During these operations several pieces of clear perfectly formed crystals were found.

While we were operating, Mr. Hugh E. Vecchio of the U. S. Signal Corps, Engineering Laboratories, Fort Monmouth, N.J. visited the properties and made quite an extensive examination. He promised to furnish us a complete report, but as yet we have not received it. We had only opened the property in two places at the time he was there so he didn't see it all.

The property is an iron cut, which we uncovered with a bulldozer. I will draw a sketch of the face of the mountain as best I can.

It was necessary to move from four to ten feet of over-burden to get to the crystal, also a lot of timber and brush. Over 60% of the time spent was in uncovering and locating the extent of the deposit. When we ceased operations we had definitely discovered the crystal in five places which I will indicate on a sketch map.

We received one perfectly formed crystal which I sent to a company in Los Angeles. This crystal weighed 40 lbs. when packed for shipment. A dozen or more others were found that would weigh from two to six pounds which were perfectly formed. I have one of my residence in Salt Lake City which Dr. Vecchio seen that will weigh about 40 lbs.

The clear crystals are all headed in small shattered crystal which is sold for commercial purposes. At the time we were selling there was no demand for clear so we did a lot of harder work which shattered a lot of clear pieces. Clear pieces were found all the time and showed up at the crusher

In order to get the clear crystal our method of mining would have to be changed. The best method would be a mech system. I will explain how the water can be obtained on the map.

The operation of the property will require the service of six or ten men. The largest expense will be for machinery and pipe to convey the water

When operations of the property was started only crystal for commercial purposes was produced and capital in quite was not necessary. We started work where ever we found any signs of crystal. Every outcropping had hallucinations of the top which had to be moved. Under this is a series of iron ore from two to six feet thick, then a soil overburden of three to four feet, which has to be moved. Every place we struck the iron ore, there was crystal underneath.

The clear crystals found so far are headed in small shattered crystal quartz which is clear but full of fractures. The leads all seem to lead to the east, but they have the appearance of running together in the mountain

We did some work at No. 8 and cropping up from the others. We found quartz boulders that would weigh two tons but they were shattered. After the top layer was removed we never found the white quartz under the iron capping. At this place we drilled down about twenty-five feet and was still in quartz.

To reach the clear crystal it will be necessary to move the side of the hill until we have a back face to work to. The mountain is very steep so it appears that we can get a forty to sixty foot face then we can see the clear pieces and not ruin them by running over it with the tractor as we have been doing.

There has been large crystals found in the valley 600 feet below where they found, but I think these were float. From the property you can find float for 3/4 mile up the hill.

After we get a face opened, we intend to use water from Bear Creek which is shown on the map, for washing purposes. It will be necessary to build a small reservoir. However there are two good locations for it. One would be gravity, the other would have to be pumped from in the late season. The property contains plenty of timber for this kind of work.

While we were operating gas engines were used to operate the compressor and screens, but the Idaho Power Company has a line one mile west of the property and will build a line to us, if we want it.

The road to the property is fairly good. We can use the dirt we move from the side of the hill, when opening the face of the mine to improve it. In good weather we want out four times with 20 tons to the load as the road is not.

The road usage on forest service need is not too good and may have to be changed in some places to improve the grades. If we work the year round, we will have to construct buildings at the property as the snow in winter gets two to four feet deep. The bad part of the year is the spring months of March, April and May.

When operations of the property was started we were short on finances, so we are now in the red about $2,000.00. While money was put in machinery and payments on the property. We have spent $12,000.00.

The property is patented government land and the patents were issued before the minerals withholding law was passed, so the mineral rights go with the surface rights. We still have $8,000.00 to pay on the purchase price. The next payment is $500.00 and interest at 5 due next April 1958.

If this were a tunnel or shaft mine, I would not feel capable of operating it, however being an open cut proposition, I think I have had all experience necessary to handle it. I started contracting with some grades with my father when eighteen years of age and have been in road work and construction all my life. I understand the handling of dirt work, setting machinery and building construction.

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Engineering Laboratories, Fort Monmouth, N.J.

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1040 East 21st South
Salt Lake City, Utah.

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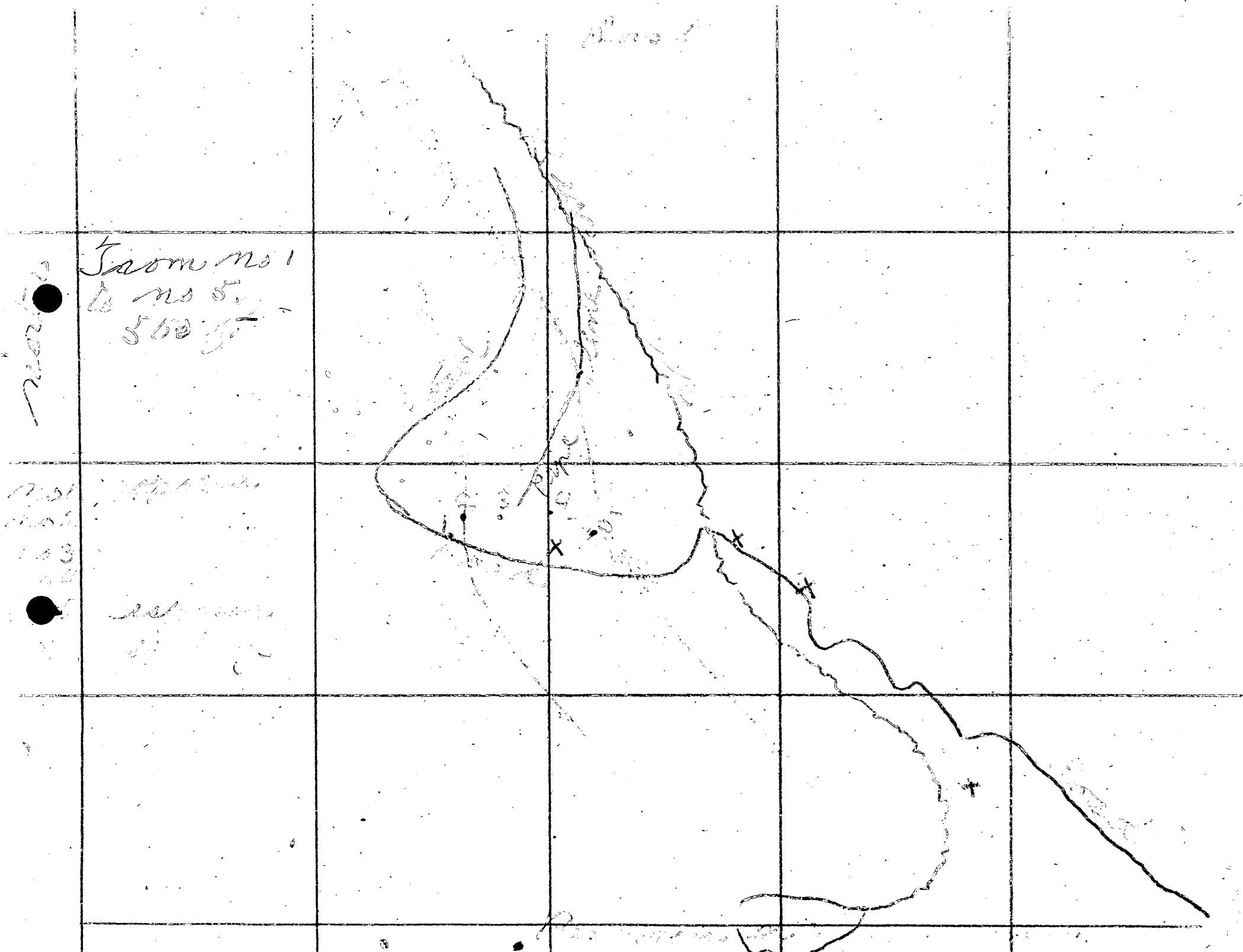
We have this letter answer your previous concerning the quartz crystal submitted for examination.

Sincerely yours,

Signed S. [illegible] Joyce
[illegible] Chief
Metallurgical Division
Region IV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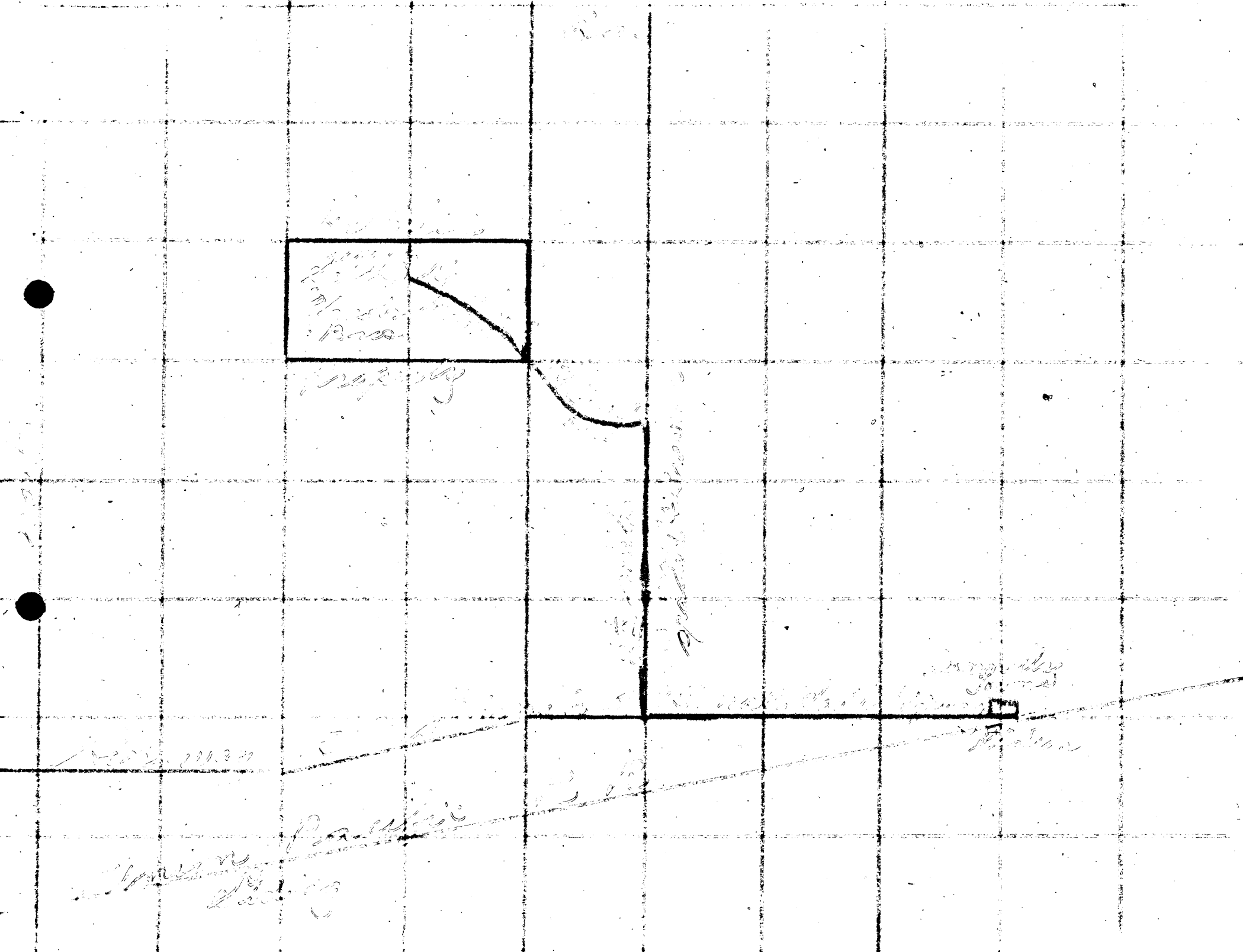

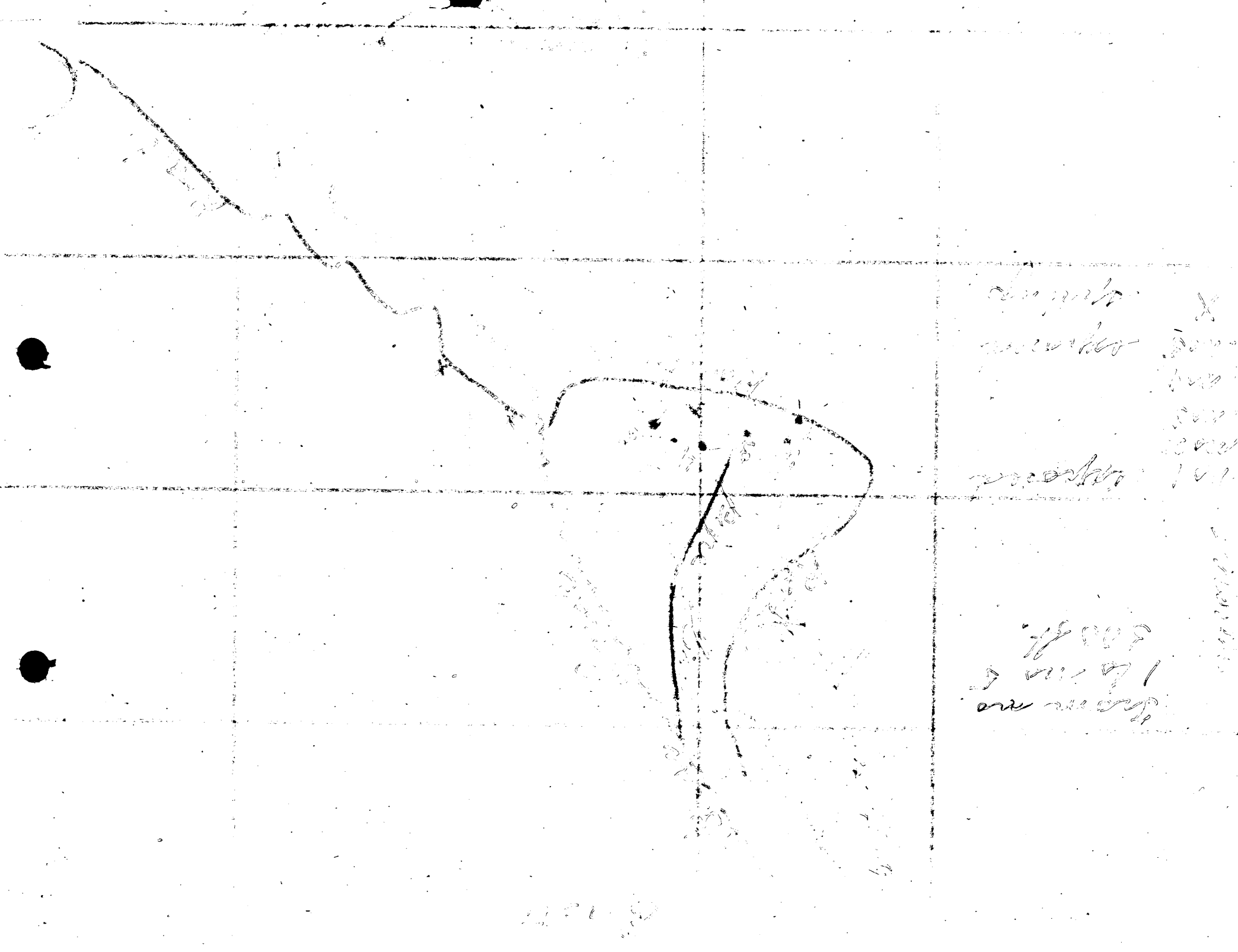

Soldato 1ª
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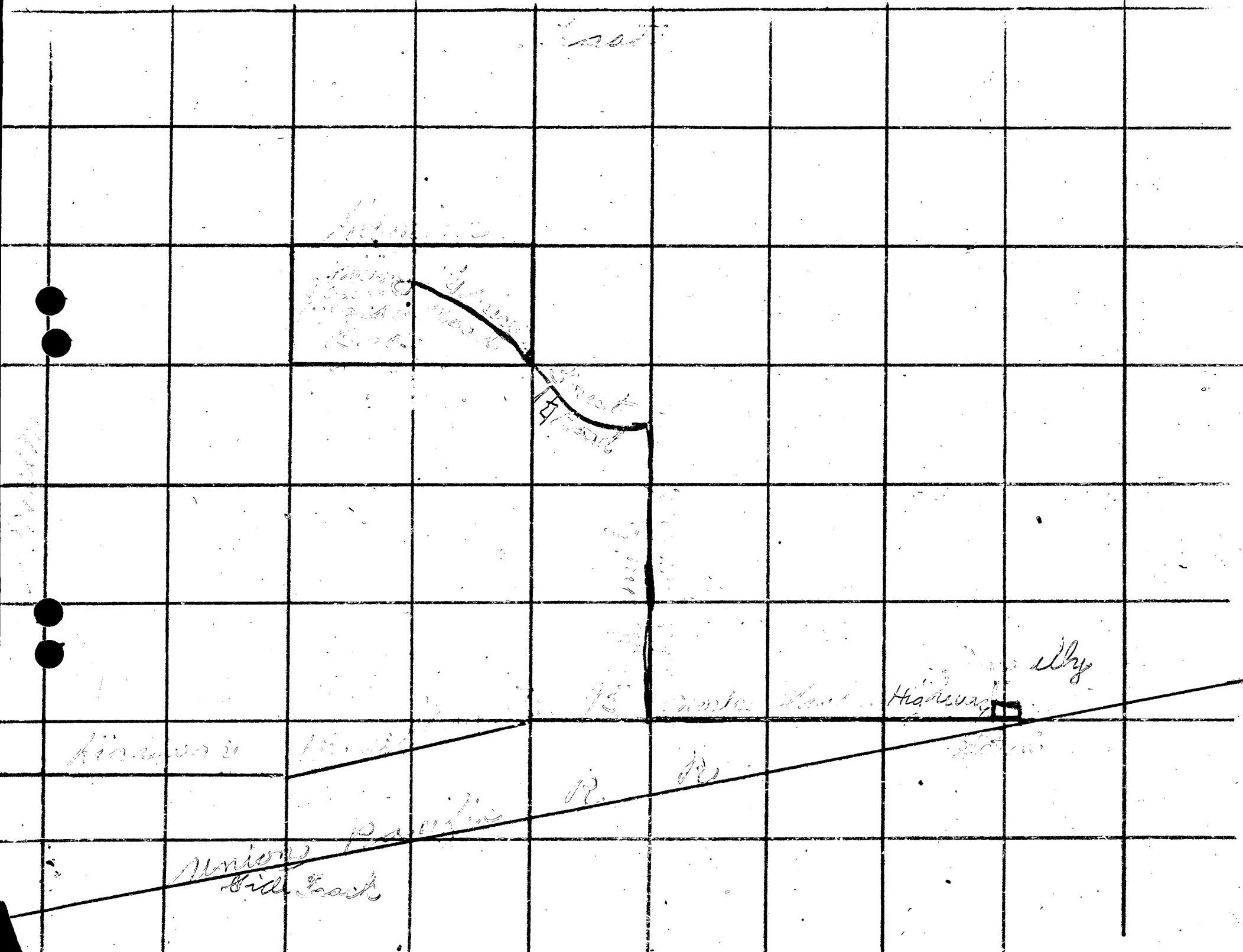
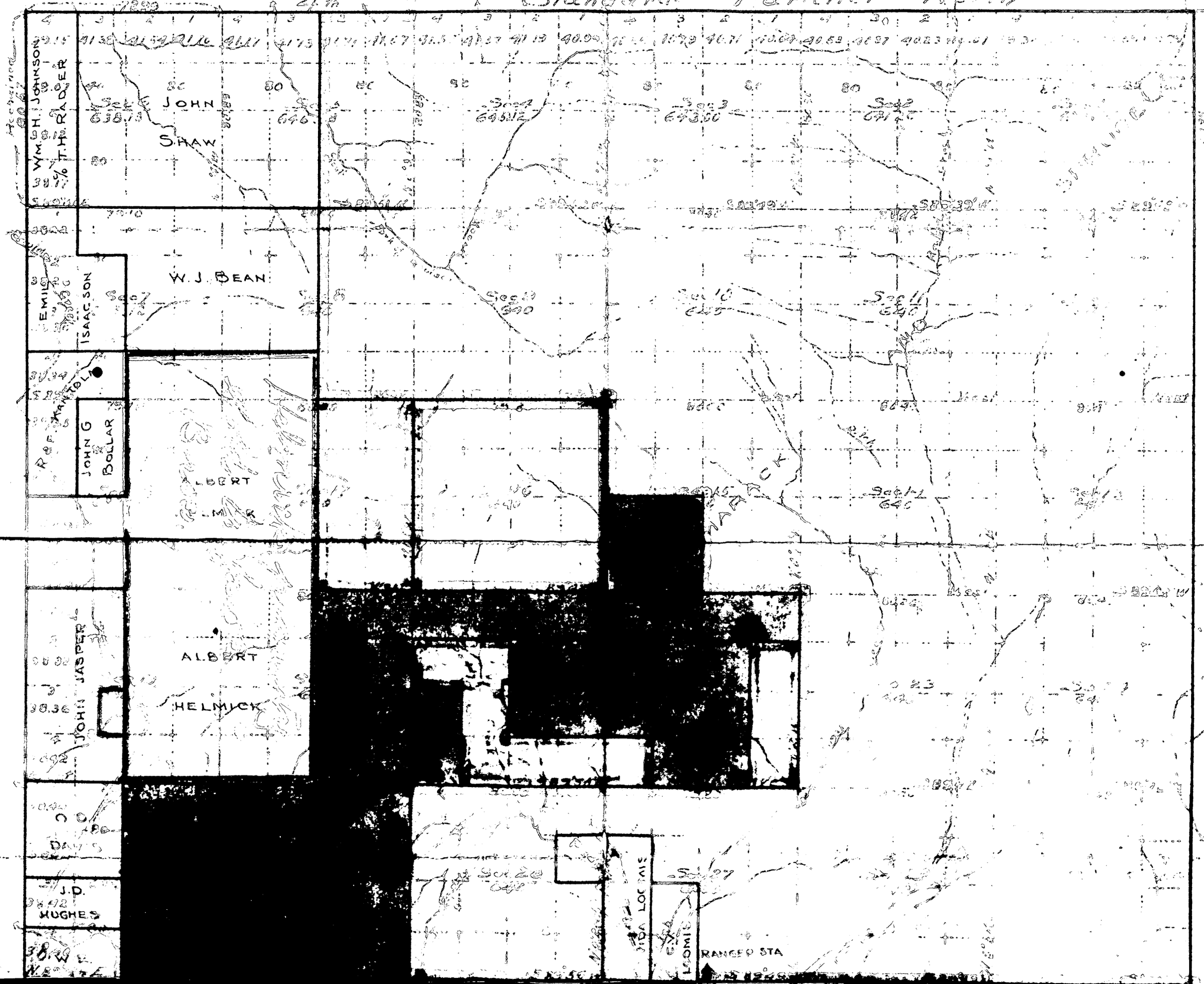

Union Pacific R. R.
Old Track

Township No 7 North, Range No 4 East of the Boise Meridian.

4th Standard Parallel North



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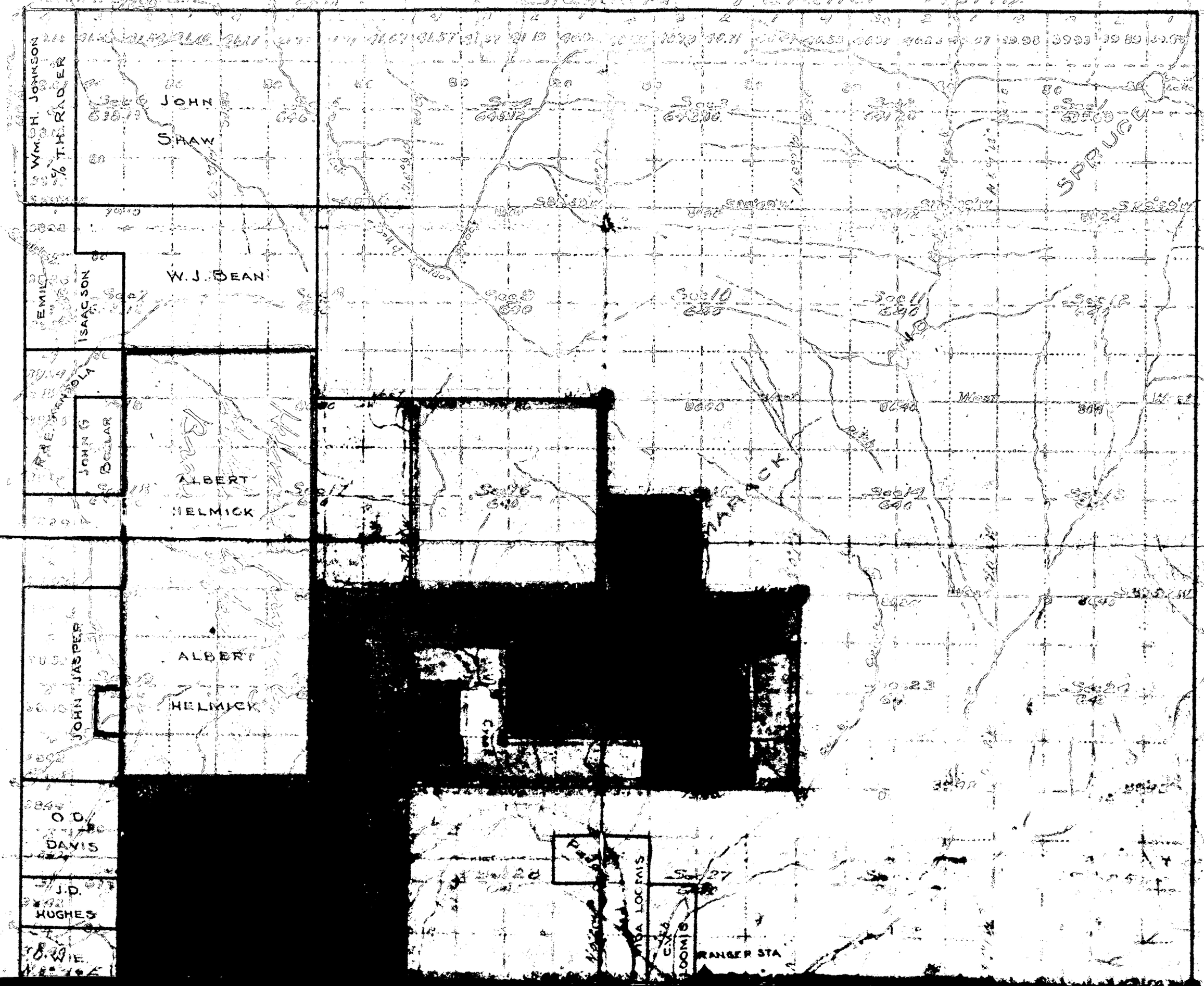
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