DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMEA Docket No. 324

DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect status of the case must also be reported.

This document has been recorded as

An Exploration Project.

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: P.E. Div. Date 11/30/51

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DO NOT DETACH

CONTROLLED DOCUMENT

500
FILE COPY
SURNAME:

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

Moulds, Mayo, Merrill

DEC 29 1951

DN

Mr. Heber Comer
Parker Mining Company
P.O. Box 938
Ketchum, Idaho

Re: Docket No. DMA 324
Parker Mine
Lead-Zinc

Dear Mr. Comer:

With reference to your application for exploration project assistance of May 28, 1951, the Government has made a detailed study of the data submitted by you and, also, all geological and field data presently available. We find the prior exploration conducted on the Parker Vein on several levels has not resulted in discovery of the continuation of the Parker ore shoot or other worthwhile base metal mineralization. Your proposal to explore down the dip of the Parker vein beyond the Montgomery tunnel level does not appear to be supported by analysis of the geologic structure, and your application for exploration project assistance is therefore denied.

We appreciate the opportunity to review your project, and regret that it does not fulfill the requirements of Mineral Order 5. If, however, additional information or a revised program is presented on a sound geological engineering basis, your project will be reopened for consideration.

Sincerely yours,

C. O. Mittendorf (fw)

Acting Administrator
Defense Minerals Exploration
Administration

DEMoulds/meh
12/21/51
cc to: Adm. Reading File
Mails and Files 12-29 J.O.
Mr. Mittendorf
Mr. Moulds
Mr. Bishop
Mr. McKnight
Docket
Region II (2)

FILE COPY
SURNAME:

Moulds
McCaughey
Nelson

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

AIR MAIL

Mr. Weber Comer
Parker Mining Company
P.O. Box 938
Ketchum, Idaho

Re: Docket No. DMA-324
Parker Mine
Lead-Zinc

Dear Mr. Comer:

With reference to your application for exploration project assistance of May 28, 1951, the Government has made a detailed study of the data submitted by you and, also, all geological and field data presently available. We find the prior exploration conducted on the Parker Vein on several levels has not resulted in discovery of the continuation of the Parker ore shoot or other worthwhile base metal mineralization. Your proposal to further explore the area down the dip of the Parker vein from the Montgomery tunnel level by diamond drilling, also, does not appear to substantiate the possibility of making a discovery on the Parker Vein which would result in a worthwhile production of base metal. Your application for exploration project assistance as presented by the above data is therefore denied.

~~The Government is very much interested in participation in all well defined projects geologically favorable for the discovery and later production of a significant tonnage of strategically important mineral.~~ We appreciate, therefore, the opportunity to review your project and regret that it does not fulfill the requirements.

Confirm

If, ~~however,~~ additional information or a revised program is presented on a sound geological and engineering basis, your project will be reopened for consideration.

Sincerely yours,

Acting Administrator
Defense Minerals Exploration
Administration

DEMoulds/jem
12-13-51
cc to: Adm. Reading File
Mails & Files Br.
Docket
Messrs. Mittendorf
Mote
Nelson
Moulds
Field Team, Reg. II (2)

OFFICE OF THE ADMINISTRATOR

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

AIR MAIL

Mr. Heber Comer
Parker Mining Company
P.O. Box 938
Ketchum, Idaho

Re: Docket No. DMA-324
Parker Mine
Lead-Zinc

Dear Mr. Comer:

With reference to your application for exploration project assistance of May 28, 1951, the Government has made a detailed study of the data submitted by you and, also, all geological and field data presently available. We find the prior exploration conducted on the Parker Vein on several levels has not resulted in discovery of the continuation of the Parker ore shoot or other worthwhile base metal mineralization. ~~Your proposal to further explore the area down the dip of the Parker vein from the Montgomery tunnel level by diamond drilling, also, does not appear to substantiate the possibility of making a discovery on the Parker Vein which would result in a worthwhile production of base metal. Your application for exploration project assistance as presented by the above data is therefore denied.~~

The Government is very much interested in participation in all well defined projects geologically favorable for the discovery and later production of a significant tonnage of strategically important mineral. We appreciate, therefore, the opportunity to review your project and regret that it does not fulfill the requirements.

If, however, additional information or a revised program is presented on a sound geological engineering basis, your project will be reopened for consideration.

Sincerely yours,

Your proposal to explore down the dip of the Parker vein beyond the Montgomery tunnel level does not appear to be supported by analysis of the geologic structure and your application for exploration project assistance is therefore denied.

Acting Administrator
Defense Minerals Exploration Administration

We appreciate the opportunity to review your project and regret that it does not fulfill the requirements of Mineral Order 5. If, however,

FILE COPY
SURNAME:

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

Moulds

December 13, 1951

MEMORANDUM

To: Mr. C. O. Mittendorf, Acting Administrator

From: D. E. Moulds

Subject: Recommendation for Denial of Exploration Loan, Docket No. DMA-3241, Parker Mining Company, Ketchum, Idaho, Lead-Zinc

The Application:

The applicant initially submitted an application for a production loan. A field team examination was made in April and the applicant was advised that the property did not warrant a production loan but that an exploration loan would be considered if presented.

The applicant therefore filed Form 103 for an exploration project in the amount of $18,450 under date of May 28, 1951. The application proposed 10,000 feet of diamond drilling but was indefinite in location and objectives. The field team requested the applicant to clarify the proposed project which was done under date of October 5, 1951 by letter and map. The revised project consisted of six holes (6,000-7,000 feet) at an estimated cost of $21,200.

Property:

The property consists of 6 patented claims located in Blaine County, Idaho, which are owned by the applicant. A small amount of mining equipment is available for mining operations. The mine had a small production of high grade shipping ore during the period 1883-1889, which is said to have come from a shoot about 75-feet long by 7-8 feet in width which pinched to a calcite seam on both ends. The ore was followed down a 30° dip for 500 feet where it terminated against a steeply dipping strike fault. Persistent efforts to locate the ore beyond the fault resulted in extensive exploration drifts, crosscuts, winzes and raises on several levels. The applicant obtained the property in 1947 and has since rehabilitated several of the old tunnels in the upper and lower levels, accomplished

some sampling and new exploration from the lower levels.

The Project:

The revised project proposed to drill six holes ranging from 200 to 600 feet and totaling 4,400 feet according to the map. The holes to be drilled to intersect the projected vein above, below and level with the lower mine tunnel. The holes would cut an area approximately 1200 x 600 to the south and west of the present workings.

The geology of the area and Parker Mine has been well covered by Phamphlet No. 90 written by A. L. Anderson, T. H. Kiilsgaard, and V. C. Fryklund, Jr. for the Idaho Bureau of Mines and Geology.

Conclusion:

The extensive exploration previously accomplished on the Parker Vein has resulted in only one ore producing stope. This stope although high in rare and base metal content, was mined to the end margins and to a fault cutoff. This one has not been definitely located although work seeking the extension was done in all directions. The field team has concluded that the proposed drilling has little possibility of discovering new ore bodies, or continuation of the ore shoot previously mined and that proper exploration could only be accomplished by more extensive underground program. The field team also believes that the present management is not competent to successfully direct such a program.

Review of the above mentioned Phamplet No. 90, as it refers to the Parker Mine, indicates that the St. Louis tunnel area represents an unexplored and promising part of the structure and should be given priority in any future exploration program. In view of this report, it is believed that the project cannot be denied on the basis of geological improbability. It is also believed that competent supervision acceptable to the Government could be required if a suitable program was proposed.

The program as now proposed does not explore the St. Louis area and the Field Team recommendation of denial on the basis of little possibility of discovery of either new ore bodies or the continuation of the faulted ore shoot appears sound but it is believed that reconsideration should be suggested on presentation of a new project and additional information.

A suggested letter is attached.

DEMoulds/jem
cc to: Mails and Files Br.
Mr. Moulds
Docket

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

December 13, 1951

MEMORANDUM

To: Mr. C. O. Mittendorf, Acting Administrator

From: D. E. Moulds

Subject: Recommendation for Denial of Exploration Loan, Docket No. DMA-324X, Parker Mining Company, Ketchum, Idaho, Lead-Zinc

The Application:

The applicant initially submitted an application for a production loan. A field team examination was made in April and the applicant was advised that the property did not warrant a production loan but that an exploration loan would be considered if presented.

The applicant therefore filed Form 103 for an exploration project in the amount of $18,450 under date of May 28, 1951. The application proposed 10,000 feet of diamond drilling but was indefinite in location and objectives. The field team requested the applicant to clarify the proposed project which was done under date of October 5, 1951 by letter and map. The revised project consisted of six holes (6,000-7,000 feet) at an estimated cost of $21,200.

Property:

The property consists of 6 patented claims located in Blaine County, Idaho, which are owned by the applicant. A small amount of mining equipment is available for mining operations. The mine had a small production of high grade shipping ore during the period 1883-1889, which is said to have come from a shoot about 75-feet long by 7-8 feet in width which pinched to a calcite seam on both ends. The ore was followed down a 30° dip for 500 feet where it terminated against a steeply dipping strike fault. Persistent efforts to locate the ore beyond the fault resulted in extensive exploration drifts, crosscuts, winzes and raises on several levels. The applicant obtained the property in 1947 and has since rehabilitated several of the old tunnels in the upper and lower levels, accomplished

some sampling and new exploration from the lower levels.

The Project:

The revised project proposed to drill six holes ranging from 200 to 600 feet and totaling 4,400 feet according to the map. The holes to be drilled to intersect the projected vein above, below and level with the lower mine tunnel. The holes would cut an area approximately 1200 x 600 to the south and west of the present workings.

The geology of the area and Parker Mine has been well covered by Phamphlet No. 90 written by A. L. Anderson, T. H. Kiilsgaard, and V. C. Fryklund, Jr. for the Idaho Bureau of Mines and Geology.

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The program as now proposed does not explore the St. Louis area and the Field Team recommendation of denial on the basis of little possibility of discovery of either new ore bodies or the continuation of the faulted ore shoot appears sound but it is believed that reconsideration should be suggested on presentation of a new project and additional information.

A suggested letter is attached.

DE Mills

IN REPLY REFER TO:

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

DEPARTMENT OF THE INTERIOR
NOV 27 1951
Defense Minerals Administration,
Production Expansion Division.

Re: Docket DMA-324
Parker Mining Company
Ketchum, Idaho
Parker Mine, Blaine County, Idaho
Exploration loan, $21,200

Memorandum

To: C. O. Mittendorf

From: E. J. Lyons, Geological Survey

DEPARTMENT OF THE INTERIOR
RECEIVED
DEC 7 1951
Defense Minerals Administration,
Production Expansion Division.

Subject: Recommendation for denial of exploration loan

The report of the field team has been received and reviewed.

The Parker mine, about 6.7 miles east of Ketchum, Idaho, is developed on a vein formed in a quartz-bearing shear zone which dips 35° SE. The wall rock is dark, carbonaceous argillite.

The deposit, discovered in 1833, produced in the next 15 years about 1,552 tons of ore containing over 550 tons of lead and 300,000 oz. of silver. This ore came from a single shoot about 75 ft. long. The shoot was mined on the Blacksmith level and followed down the dip of the vein for a distance of about 500 ft. where it was cut off by a fault. The Montgomery tunnel, driven at a lower level, was an unsuccessful attempt to find the faulted part of the shoot. Since 1938 the property has been worked only intermittently.

The applicant originally applied for a direct loan, but when advised that his property did not warrant assistance of that type, the application was changed to a request for an exploration loan of $21,200 on a participating basis. The program proposed consists of 6,000 to 7,000 feet of diamond drilling from the Montgomery level to explore for the continuation of the faulted ore shoot and for new ore bodies.

It is the opinion of the field team that the program offered by the applicant has little possibility of discovering either the continuation of the faulted ore shoot or new ore bodies, and that proper exploration of the property could be accomplished only by a more extensive underground program. Furthermore, the present management is not believed competent to successfully direct such a program.

The field team, therefore, recommends that the application be denied. We concur with this recommendation and suggest that a letter of denial be sent to the applicant.

Attached hereto are:

3 Forms MF-103
4 amended statements of exploration program with maps.
Memorandum dated April 23, 1951 from T. Kiilsgaard, et al, to field team.
Letter of June 2, 1951 from H. Corner
Memorandum of October 26, 1951, to T. P. Billings from field team.

E. J. Lyons
E. J. Lyons
Geologist

O.M. Bishop
U.S.B.M. 12/10/51

FILE COPY
Surname:

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

McKnight
Bishop

Re: Docket DMA-321
Parker Mining Company
Ketchum, Idaho
Parker Mine, Blaine County, Idaho
Exploration loan, $21,200

Memorandum

To: C. O. Mittendorf

From: E. J. Lyons, Geological Survey

Subject: Recommendation for denial of exploration loan

The report of the field team has been received and reviewed.

The Parker mine, about 6.7 miles east of Ketchum, Idaho, is developed on a vein formed in a quartz-bearing shear zone which dips 35° SE. The wall rock is dark, carbonaceous argillite.

The deposit, discovered in 1833, produced in the next 15 years about 1,552 tons of ore containing over 550 tons of lead and 300,000 oz. of silver. This ore came from a single shoot about 75 ft. long. The shoot was mined on the Blacksmith level and followed down the dip of the vein for a distance of about 500 ft. where it was cut off by a fault. The Montgomery tunnel, driven at a lower level, was an unsuccessful attempt to find the faulted part of the shoot. Since 1938 the property has been worked only intermittently.

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bl

The field team, therefore, recommends that the application be denied. We concur with this recommendation and suggest that a letter of denial be sent to the applicant.

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Letter of June 2, 1951 from H. Corner
Memorandum of October 26, 1951, to T. P. Billings from field team.

E. J. Lyons
Geologist

EJLyons:emp
G 11-20-51
Copies to: A. E. Weissenborn Region II (2)
E. T. McKnight
O. M. Bishop
Directors r. file 4214 GSA
Br. r. file 4214 GSA
Geol. Div. Files 4240
Administrators r. files

OFFICAL FILE COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Mines Administration
RECEIVED
OCT 29 1951

250	G. EC	10-29
210		

October 26, 1951

Memorandum

To: T. P. Billings, Chief Lead-Zinc Branch, DMA

From: Field Team, Region II

Subject: Parker Mining Company, DMA Docket 324X

The Parker Mining Company initially submitted an application for a DMA production loan. As a result of this application a DMA Examination Team visited the property in April, 1951 and advised the applicant that the property did not warrant a production loan, but for the applicant to consider application for an exploration loan.

Application for an exploration loan was submitted by the applicant in June, following a directors meeting of Parker Mining Company officials. This application was rather vague and indefinite in describing the proposed exploration program, consequently, the Field Team was requested by letter from DMA in Washington D. C., dated July 25, 1951, to secure more concise information as to the applicant's plans. A letter from this office, dated August 1, 1951 requested the applicant to clarify the proposed exploration program. This information in the form of a map and accompanying letter has been received and is being forwarded herewith.

In the light of the proposed drilling program, and after consideration of possible ore that such a program might discover, the Field Team recommends the application be denied as the proposed program is not geologically feasible; and is believed to have little chance of discovering a productive ore body. Although it is quite likely that the Field Team could persuade the applicant to reorient his diamond drilling program, it is believed that such a program on the Parker mine property would be uninformative. To properly explore the Parker vein would require a more extensive underground exploration program, and one directed by more competent management than is now present.

A copy of the subject exploration application that was held at this office is enclosed herewith.

By Field Team, Region II

A. E. Weissenborn

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

Glenn C. Reed

Glenn C. Reed
For: M. E. Volin, Member
(U. S. Bureau of Mines)

OCT 29 1951

Enclosures

5

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Glenn C. Reed

For:

FILE COPY 350
SURNAME:

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

McKnight
Billings
FILE
(FTR MOTE)

July 25, 1951

Re: DMA-324X
Parker Mining Co.
Blaine County, Idaho
Exploration loan, $18,450
Lead

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

Dear Mr. Weissenborn:

According to a memorandum from you dated April 20, the property covered in this application has merit as an exploration project and the statement was made that enough information was already at hand so that an immediate decision could be reached should the company present a definite application.

The application was worked up by the applicant and transmitted over Mr. Kiilsgaard's signature in a letter of June 5. In this letter it was pointed out that inasmuch as the application was indefinite as to the proposed exploration program and its attendant costs and as to who would direct the operation, one copy of the application was being retained in the field office to try and get more information on these problems. We are unable to process the application as turned in for approval and we hope that the field team can get the applicant to sharpen up his proposal into a plan acceptable to the field team and showing adequately what he plans to do, so that a contract can be written. The existing application is very vague and generalized as to the work proposed.

We trust that a definite understanding can be worked out with Mr. Comer that will provide for competent supervision of the project under such contract as may be formulated.

Very truly yours,

T. P. Billings, Chief
Lead-Zinc Branch

ETMcKnight:emp
G 7-25-51
Copies to: Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
R. H. Mote
Reports & Records
Directors r. file 4214 GSA
Br. r. file 4214 GSA
Files

July 25, 1951

Re: [illegible]A-3241
Parker Mining Co.
Blaine County, Idaho
Exploration loan, $10,450
Lead

Mr. A. L. Falkenborn
Executive Officer, GSA Field Team
Region II
South 157 Howard Street
Spokane 8, Washington

Dear Mr. Falkenborn:

Referring to a memorandum from you dated April 20, the property covered in this application has merit as an exploration project and the assessment was made that enough information was already at hand so that an immediate decision could be reached should the company present a definite application.

The application was worked up by the applicant and transmitted over Mr. Killingsgard's signature in a letter of June 5. In this letter it was pointed out that inasmuch as the application was indefinite as to the proposed exploration program and its attendant costs and as to who would direct the operation, one copy of the application was being retained in the field office to try and get more information on these problems. We are unable to process the application as turned in for approval and we hope that the field team can get the applicant to sharpen up his proposal into a plan acceptable to the field team and showing adequately what he plans to do, so that a contract can be written. The existing application is very vague and generalized as to the work proposed.

We hope that a definite understanding can be worked out with Mr. Parker that will provide for competent supervision of the project under such contract as may be formulated.

Very truly yours,

R. P. Billings, Chief
Lead-Zinc Branch

RTMcKnight:emp
G 7-25-51
Copies to: Chief, Lead-Zinc Br.
R. T. McKnight 4204 GSA
E. P. Mote
Reports & Records
Directors r. file 4214 GSA
Br. r. file 4214 GSA
Files

FILE COPY
SURNAME:

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

June 20, 1951

Mr. Heber Comer, Manager
Post Office Box 938
Ketchum, Idaho

Subject: DMA-324X
Re: Exploration Loan -
Parker and Amicus Mines

My dear Mr. Comer:

Receipt is acknowledged of your application and attachments of May 28, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-324X and referred to Mr. Otto Herres, Chief, Lead-Zinc Branch on June 1, 1951.

In any future correspondence relating to your application, kindly refer to DMA-324X.

Sincerely yours,

LANDON F. STROBEL
Landon F. Strobel jc
Executive Secretary

L. F. Strobel:jc
cc: Strobel
✓File
Herres
Lyon

DMA 324X - Parker Mining Co.

Report from field team, Region II, recommends denial of the project. Referred to USGS.

FILE COPY
SURNAME:

McKnight
Hedges
Ferres
Mittendorf
Gwynn
Ron

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

February ~~22~~ 28, 1951

Re: Docket DMA-324

Mr. Heber Comer
Parker Mining Company
Box 938
Ketchum, Idaho

Dear Mr. Comer:

Your application (Docket DMA-324) for a Government loan under the provisions of the Defense Production Act of 1950 has been reviewed by the Lead-Zinc Branch of the Defense Minerals Administration. Before final decision can be taken on your request it will be necessary to obtain additional information on your property. Your application, therefore, has been referred to the appropriate field office with the request that the needed information be supplied to us.

Very truly yours,

/s Tom Lyon

Tom Lyon
S. ~~N. Williston~~, Director
Supply Division
Defense Minerals Administration

ETMcKnight:emp
G-2/20/51
Copies to: Chief, Lead-Zinc Branch
Geological Survey - McKnight
J. H. Hedges
R. H. Mote
2 copies to Executive Officer
Regional Field Team, Region II
Strobel
Mittendorf
Files

FILE COPY
SURNAME:

McKnight
Herres

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

February ~~20~~ 28, 1951

Memorandum

To: Executive Officer Field Team, Region II
Through Operating Committee and
Director, Supply Division

From: Lead-Zinc Branch, DMA

Re: Docket DMA-324

Subject: Application of
Parker Mining Company
Heber Comer, Manager
Box 938
Ketchum, Idaho
Parker and Amicus Mines, Blaine County, Idaho

Commodity: Lead (zinc)

Subject docket gives practically no information other than that applicant wants to do some diamond drilling to locate some ore. He evidently has not returned U.S.R.B. Form 146 sent to him by Mr. Weissenborn. He is in a favorable area for lead-zinc deposits, but description of his mine in U.S.G.S. Bulletin 814 suggests it is mined out.

Applicant might be eligible for exploration encouragement, subject to approval of field team.

It is recommended that application be forwarded to field team, to be held in readiness for possible examination and recommendation, but that no examination be made until exploration program is announced. Applicant might not want to share in such a program.

OTTO HERRES

OTTO HERRES, Chief
Lead-Zinc Branch
Defense Minerals Administration

Approved:
DMA Operating Committee

(S)
Chairman

LOWELL B. MOON

~~R. J. Hedges~~

(S)
Olaf N. Rove

ETMcKnight:emp
G-2/20/19
Copies to: Chief, Lead-Zinc Branch
Geological Survey - McKnight
J. H. Hedges
R.H. Mote
2 copies to Executive Officer
Regional Field Team, Region II
Strobel
Mittendorf
Files

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 324X

Date received 6-8-51

Participation

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 8 - 1951
LAMSON F. STROBEL
Executive Secretary

Parker Mining Company, Inc.,
Box 938
Ketchum, Idaho

Name and address of applicant

Date May 28, 1951

FILL IN THIS BLOCK

Date of application May 28, 1951

Estimated cost $18,450.00

Mineral or metal Lead

Percentage of Government participation Fifty per cent.

Location of mine Sects. 10-11, Tp. 4 N.R.18 E. of B.M., in Warms Springs Creek Mineral Dist., Blaine County, Idaho; approx. 6 mi. E. of Ketchum, Idaho, in Parker Gulch.

Date of filing MF-100

DMA Docket Number, if available 324

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? Corporation

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

*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders. See Page 1 attached.

*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project. See Page 2 attached.

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

6. If owner, state what claims, liens, or encumbrances, if any, are against the property. See Page 2 attached.

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. See Page 3 attached.

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)? See Page 3 attached.

*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 Page 4 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. Parker Mine

*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 Page 4 attached

*13. State source and quantity of water available for operations and its sufficiency at all seasons. See Page 4 attached. State amount of power to be used, rate per hour or other cost, and source. See Page 4 attached.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. See Page 4 attached.

15. State in detail how the ore could be shipped and how and where milled. See Page 4 attached.

*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 Pages 5 & 6 attached.

(*b*) State briefly the known history and production of adjoining and neighboring properties. See Page 6 attached.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations. See Page 6 attached and Pages 7 to 36.

*17. Production:

(*a*) If mine is in production, furnish the following information: Mine is not in production.

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

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

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

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

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

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

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted? See Page 37 attached.

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. See page 37 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. See page 38 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 page 39 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. See Page 39 attached.

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.

Parker Mining Company, Inc.,
(Name of company)

By [signature]
(Signature of authorized official)

May 28, 1951
(Date)

Manager
(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

THE APPLICANT

3.	Howard W. Hill	Carlsbad, California	President and Director
	G. W. Burgess	Twin Falls, Idaho	Vice-President and Director
	Frank Brown	Twin Falls, Idaho	Secretary-Treasurer and Director

Five Largest Stockholders

Heber Comer	Ketchum, Idaho	Manager
Howard W. Hill	Carlsbad, California	
O. S. Burgess	Twin Falls, Idaho	
G. W. Burgess	Twin Falls, Idaho	
Henry Rees	Twin Falls, Idaho	

Note: The annual meeting of the corporation will be held on May 28, 1951, at which time new directors will be elected. The proposed new directors are Mr. Heber Comer, Dr. Howard W. Hill and Mr. E. . Adkins, whose address is Richfield, Idaho.

4. In 1947 the Amicus Trust, through Heber Comer, Trustee, purchased the Parker Mine. The Trust held title to the property until August, 1949. In 1949 the Amicus Trust was converted into a corporation, namely, Parker Mining Company, Inc., an Idaho corporation, and title to the Parker Mine was conveyed by the Trust to the corporation.

Practically all of the recent work on the Parker Mine was done by the Amicus Trust during its ownership. This work consisted of cleaning up old workings, dewatering, retimbering, drifting, raising, etc. These operations were under the supervision and management of Mr. Comer, and future operation of the mine will be under his supervision and management. Mr. Comer has had more than fifteen years experience in mining, in tunnel work, and the various phases of development.

The Amicus Trust financed its mine operations under the management of Mr. Comer; selling costs were held to a minimum; funds raised were used for organization costs, purchasing the property, purchase of equipment, and actual mine development, the operations being conducted on the most economical basis possible under existing conditions. Neither the Amicus Trust nor the Parker Mining Company, Inc., has permitted promotional selling of its stock. The controlling interest in the corporation is held by Mr. Comer.

6. There are no encumbrances or liens on the Parker mining property.

9.

Balance Sheet
Close of Business July 31, 1950

Assets:

First Security Bank, Hailey, Idaho	$ 42.18	
Special Deposit-State Ins. Fund	100.00	
Organization, Incorporation Costs	766.82	
Assays	101.38	
Geological & Engineering	992.99	
Lease & Properties	5284.91	
Road Improvement	481.50	
Equipment Purchased	8240.42	
Mine Development Cost	36484.11	
Total		$52494.31

Liabilities:

Federal Withholding Tax Accrued		533.70	
Federal Old Age Benefits Accrued		114.00	
Accounts Payable, Salary Heber Comer		7265.60	
" " Cash advances "		453.07	
Realized from sale of Units & Stock	$45170.00		
Less Commissions paid & allowed	1041.96.		
		44128.04	
			$52494.31

Note: No appraisal of property owned by the corporation has been made.

Note: The foregoing is the last balance sheet made. Since July 31, 1950, some funds have been raised but the property has been inactive. At present we are raising funds through the sale of stock to continue operations, up to $10,000.

Applying rental on equipment in accordance with Section 9 of Mineral Order 5 we will have sufficient funds to cover our one-half of the cost of operating under the proposed loan.

THE PROPERTY

10. (a) The Parker Mine, consisting of 6 patented claims, namely:

(b) The Parker, Montgomery, St. Louis, Western Reserve, Una and Uva patented mining claims, situated in Sections 10 and 11, Tp. 4 N. R. 18 E. of Boise Meridian, in Blaine County, Idaho. The property is in the Warm Springs Creek Mineral District, in Parker Gulch.

12. The Parker Mine is located approximately 6½ miles East of Ketchum, Idaho, which is the railroad shipping point; it is 4.3 miles North of U.S.Highway 93, on good road, with about a 5% grade. The road may easily be kept accessible throughout the year.

13. Two large springs which flow throughout the year will give ample water for all mining and/or milling purposes; in addition there is water from the mine tunnels.

14. Two 105 Schramm Compressors
1 Tugger Hoist
1 Sinker Pump
1 Pressure Tank
1 Receiving Tank
1 Dressing Block
1250 feet of pipe
1500 feet of track
Small Tools
1 1½ ton truck

15. The ore can be trucked to railroad shipping point, Ketchum, Idaho; from there shipped to the smelters at Salt Lake City, Utah, a distance of about 300 miles. The truck hall from mine to railroad would be about 6½ miles.

16. The early development of the Parker Mine is referred to in excerpt from U.S.G.S.Bulletin 814, and the recent report made by the Idaho State Bureau of Mines, Bulletin #90, attached to this application.

Along with other mines in the Wood River area, the Parker mine was closed down at the time of the drop in the price of metals. In 1927 an attempt was made to reopen the Parker (Blacksmith) tunnel on the producing level. The work was conducted by the original owners of the property. Due to improper timbering, a cave-in occurred and two local men lost their lives. After this unfortunate incident, no further work was done on the property. The mine remained closed then until recently reopened by Mr. Comer, Trustee of the Amicus Trust, prececessor of the Parker Mining Company, Inc.

The Trust cleaned up and retimbered the old Parker drift, driving new tunnel around the heavily caved portion, and intersected the old workings of the mine at that level. Some sampling of old stopes and pillars was done, for a distance of over 400 feet. All milling ores had been left in place by the early operators. At this level there is an undeveloped ore zone from 30 to 50 feet wide. We were unable to go down the winze more than 300 feet due to water, therefore could not continue our examination. We expect to complete dewatering of the winze this season, and complete a raise from the Montgomery level to the Parker, and complete our examination and sampling.

Our next work was the cleaning up, retimbering, etc., of the lower cross-cut footwall tunnel (Montgomery), which is 225 feet below the Parker tunnel. The main crosscut tunnel is 1250 feet long from the portal to the point where we are raising between the two levels. There is additional cross-cut work of approximately 1000 feet.

In the Montgomery tunnel, we found that no bedding planes had been explored; tops of beds had been cut; no effort evidently had been made to explore the beds between the two tunnel levels, although the formation warrants an exploration thereof. No attempt had been made to locate the downward extension of the old Parker ore shoot which produced the high grade ores which are shown in the list of early-day shipments.

16.(cont.) At this point we were compelled to temporarily cease operations due to lack of working capital.

(b) We refer you to Bulletin #90 of the Idaho State Bureau of Mines for information relative to the Triumph Mine, which is located west of the Parker Mine, and whose reputed production so far has been in excess of $60,000,000, and which is now operating on a large scale.

According to U.S.G.S.Bulletin #814, the Elkhorn mine, at the mount of Parker Gulch produced approximately $1,500,000 worth of ore in the early days.

(c) See excerpt from Bulletin #90 and U.S.Bull.814 attached, together with maps attached.

EXCERPTS

From

Pamphlet No. 90 October, 1950.

STATE OF IDAHO
C. A. Robins, Governor

IDAHO BUREAU OF MINES AND GEOLOGY

A. W. Fahrenwald, Director

Detailed Geology of Certain Areas in the Mineral Hill and Warm Springs Mining Districts

Blaine County, Idaho

By

A. L. ANDERSON, T. H. KILLSGAARD and V. C. FRYKLUND, Jr.

University of Idaho
Moscow, Idaho

Parker Mining Company, Inc.,
Box 938,
Ketchum, Idaho.

THE GEOLOGY AND ORE DEPOSITS OF THE TRIUMPH-PARKER MINE MINERAL BELT

by

Thor H. Kiilsgaard

Abstract

The Triumph-Parker mine mineral belt is underlain primarily by the Milligen formation of Mississippian age. This formation consists of argillites, limestones, and quartzites, and their various gradiational facies. Thrust remnants of Wood River formation (Pennsylvanian) cap some of the higher ridges and hilltops in the area. Along the western border, the Milligen formation is overlain by a series of volcanics, and interbedded sands, tuffs, and gravels. Intrusive dikes, chiefly andesitic, crop out throughout the district, and are particularly evident in some of the major shear zones.

A series of major shear zones, most of which strike west-northwest and dip at moderate angles to the Southwest, occur throughout the area. Many of these have been invaded by mineralizing solutions which have created ore bodies. The ore bodies are of two types: (1) fissure fillings; and (2) replacement bodies originating from replacement of susceptible limestones. The ores are of value primarily because of their lead, zinc, and silver content, although some gold and copper is also present.

The district has been intermittently productive since the eighteen eighties with the Triumph, North Star, Independence, and Parker mines being the chief contributors.

Although past mining operations have bottomed many of the ore shoots at comparatively shallow depths, there is reason to believe that ore should continue below the present lower mining levels.

Acknowledgments

Throughout most of the field season the writer was assisted by Mr. James Grant, graduate student of the University of Idaho School of Mines. The staff engineers of the Triumph Mining Company were most cooperative in contributing time and information, and in conducting the writer on tours through the Triumph property. The assistance of Mr. Heber Comer of the Parker Mining Company, Inc., is gratefully acknowledged....

Location and Accessibility

The Triumph-Parker mine mineral belt is in the Warm Springs Mining District, Blaine County, Idaho. It is roughly five miles east of U. S. Highway 93, between Hailey and Ketchum, and extends from the East Fork of the Wood River about three and one-half miles northwest to Parker Gulch (Fig. 1). The Triumph mine is located in the southeastern part of the area, twelve and one-half miles north of Hailey. A secondary road leads from the Triumph northwest to the Independence mine and then down Independence Gulch to its junction with Elkhorn Gulch. The road continues to the west and intersects U. S. Highway 93 one mile south of Ketchum. This road, or branches therefrom leads to most of the mining properties in the district....

Topography

The Triumph-Parker mine region is typical of the semi-arid and mountainous topography in that section of Idaho. Elevations range from 5800 to 8000 feet above sea level. The more prominent valleys have aggraded floors, some with distinct alluvial terraces. Many of the tributary valleys are occupied by intermittent streams and are to be viewed more as gulches than valleys. For the most part, they are walled by steep slopes which rise rapidly to narrow interstream ridges. The similarity in the southwest trend of some of the gulches suggests their control by a major fault pattern; however, such cannot be substantiated by field studies.

Geology

The sedimentary rocks of the region have been classified by U. S. G. S. Bulletin 814 as being members of the Milligen and Wood River formations, of Mississippian and Pennsylvanian age, respectively (1. pp. 25-34). There are also gravels and interbedded sandy tuffs of early Tertiary age, terrace gravels, and recent stream alluvium. Igneous rocks include extensive andesitic flows and several varieties of dikes.

Carboniferous Sedimentary Rocks
Milligen Formation (Mississippian)

Distribution and Lithology. - The dark, fine-grained, argillaceous rocks that crop out in a broad northwest-trending belt across the eastern part of the area are members of the Milligen formation (Fig. 16). They take their name from the type section exposed along Milligen Creek, which empties into the East Fork of the Wood River about one-half mile east of the Triumph mine. This formation, which is the host rock for all the ore deposits in the Triumph-Parker mine area, has a regional northwest strike and southwest dip.

The absence of horizon markers, and the abundance of local crumpling and faulting makes it difficult to measure the formation thickness. A measured section in Parker Gulch showed a thickness greater than 7500 feet; however, this measurement may be in error, because of the possible repetition of beds. Certainly, the formation thickness is more than 5,500 feet.

The Milligen formation is composed mainly of black carbonaceous argillite, the product of mild regional metamorphism. Perhaps the most noticeable feature of the formation is the abundance of carbonaceous material, particularly the graphitic films on cleavage and fracture surfaces. Often, where mine workings have penetrated rocks rich in graphite, the mine dumps resemble piles of coal. Other distinguishable lithologic units present are quartzitic beds, limy members, and at the base, a series of brown sandy shales. Gradations from one rock type to another are present throughout the formation.

In certain areas metamorphism of the Milligen formation is more pronounced. Tactite, formed by contact metamorphism of limestone beds, is present near the mouth of Parker Gulch. On the western side of Independence hill, on Telephone Peak, and at other points, some limestone and limy argillites have been altered to a whitish lime-silicate rock composed of acicular tremolite crystals and other lime-silicate minerals. A spotted argillite member, the product of incipient metamorphism, crops out in a road-cut between Chicago Gulch and the Independence mine.

Although there are no dependable horizon markers in the Milligen formation, two limestone beds are recognized in the Triumph mine area and are thought to continue northwest beyond Parker Gulch. These limestones, while persistent in attitude, are locally concealed by surface mantle and elsewhere appear to lens out or to be faulted. Inasmuch as the intersection of mineralized

structures and limy members often controls the location of replaced ore bodies in the Triumph-Parker mine area, an attempt was made to map the limestones and to observe their condition where cut by faults. (Fig. 16).

The upper limestone crops out on the ridge about 400 feet west of the portal of the Lucky Coin mine. The bed is about 75 feet thick, strikes N. 64 deg. W. and dips 55 deg. S.W. To the northwest, across Independence Gulch, and to the southeast near Chicago Gulch, it passes beneath andesite. It is a dark blue, fine-grained rock that weathers light gray. The more weathered surfaces are covered with blades and sheathlike aggregates of amphibole crystals, probably tremolite. The member is penetrated by the Lucky Coin tunnel.

The Middle limestone member is best exposed in Independence Gulch northwest of the Lucky Coin portal. It is a rather massive blue-gray limestone with a rough appearance on the more weathered surfaces. It tends to be a bluff-maker, as evidenced in Chicago Gulch. In Keystone Gulch this member is 55 feet thick but appears thicker in Independence Gulch, owing to a dip slope. The Middle limestone may be traced to the ridge northwest of Parker Gulch where it is overturned and appears to lens out. To the southeast, it passes beneath hillwash from Independence hill. This limestone is believed to continue beneath the hillwash and andesite cap and reappear near the head of Triumph Gulch from where it continues on to the southeast across the Triumph holdings. It is described in the section on the Triumph mine as the Upper tremolite limestone.

The Lower limestone is separated from the Middle limestone by 150-200 feet of argillite. It crops out in the road cut between the Triumph and Independence mine, and at the mouth of Chicago Gulch where it strikes N. 50 deg. W. and dips 44 deg. S.W. About 150 feet above the Triumph-Independence road the limestone terminates abruptly against what may be a fault, but which cannot be confirmed because of heavy surface mantle. Further to the southeast, in Rose Gulch, a limestone with similar characteristics reappears. This limestone is believed to be the southeast continuation of the Lower limestone and is discussed in the section on the Triumph mine under the title of Lower tremolite limestone. The Lower limestone may be traced northwest with the dip gradually becoming steeper. On Elkhorn ridge the beds are vertical and in Parker Gulch the dip is overturned to the northeast. The Lower limestone is explored by the June Day workings, where an appreciable ore body is formed at its intersection with the June Day fault. The rock is described in the section on the June Day mine.

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Box 938,
Ketchum, Idaho

The Elkhorn limestones underlie the Lower limestone, separated by several hundred feet of argillite. They crop out across the ridge near the old Elkhorn diggings, but appear to lens out to the southeast on Baltimore ridge. To the northwest, in the Bald Eagle area, the Elkhorn limestones have been strongly affected by fault action.

These portions of Fig. 16, mapped as undifferentiated Milligen, are argillites, gradations of limy and siliceous argillites, and quartzites, with boundaries too indefinite for accurate field mapping. By far the most abundant of these rock types are the argillites, which, where relatively unmetamorphosed, grade imperceptably into shales. The attitude of the argillite members i often strongly contorted, particularly where they are interbedded between more competent members such as limestones and quartzites. Inasmuch as the argillites are easily deformed by stress they are usually the sites of strongly contorted areas and of the larger faults or shear zones, particularly those which have resulted from compressive stress.

Wood River Formation (Pennsylvanian)

The Wood River formation is described in U. S. G.S.Bulletin 814, p.34 as being Pennsylvanian in age. A large block of the formation occurs in the southern part of the Triumph-Parker mine area, but the described outcrops are thrust remnants that cap North Star Peak, Grouse Peak, and the ridge above the Baltimore mine. Wood River outliers are separated from the underlying Milligen formation by a low angle thrust fault that is inclined to the southwest. The thrust fault is characterized by a brecciated and recemented zone, which, owing to its resistance to erosion, often stands out in relief.

Lithology. The most recognizable lithologic units of the Wood River formation includes blue-gray sandy limestones, gray quartzites, and fine-grained siliceous limestones. In general, the formation members are lighter colored, more calcareous and more massive and bluff-forming than the underlying Milligen members; however, there are exceptions. No identifiable fossils were found in the formation, but Merriam (10), in describing the Wood River exposed on North Star Peak, points to fossils of an indeterminate character occurring in a medium to coarse-grained crinoidal limestone. These include productids, stony bryozoa, tabulate corals, and probable fusulinids.

There is no evidence of sulphide mineralization in any of the Wood River formation outliers in the Triumph-Parker area. On North Star Peak a blue-gray limestone is cut by numerous quartz and calcite stringers, but there appears to be no evidence of accompanying sulphide mineralization.

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Box 938,
Ketchum, Idaho

Tertiary Sedimentary Rocks

Gravels and Tuffs

A northwest-southeast trending belt of pebble gravels, sands, and interbedded tuffs occurs east of the mouth of Keystone Gulch. These sediments underlie the large expanse of andesitic lava that crops out south of Independence Gulch. (Fig. 16). To the northwest, beyond the mapped limit, the pebble gravels overlie a lava flow. The sediments are composed chiefly of sub-rounded lava and quartzite pebbles, although fragments of argillite, sandstone, and siliceous limestone are common. Pebbles range in size from three-eighths of an inch to two and one-half inches, in the long dimension. They are water sorted and locally interbedded with more sandy layers. Some light-brown, banded, tuffaceous deposits occur in the southern part of the area. The laminae vary in thickness, with an average of about one-tenth of an inch. The tuffs are probably products of volcanic explosions and the fact that they are now contaminated with more sandy aggregates is indicative of fluvial deposition

Inasmuch as these sediments are interbedded with lava flow, they are thought to be of the same age as those flows. This age is probably Miocene(?). (1, pp. 53-56).

Terrace Gravels and Alluvium

The Terrace gravels along the East Fork of the Wood River, and the alluvial debris along all of the streams are the products of relatively recent erosion. The alluvial matter is derived from all of the rocks in the vicinity and range in size from silt to boulders several feet in diameter. It is probable that some of the higher terraces, composed of boulders, coarse cobbles, and gravel, have originated from outwash of alpine glaciers present in the higher mountains during Pleistocene time.

Igneous Rocks

Volcanic Rocks

Andesitic Flows.- Andesitic flows cover much of the central portion of the area, especially south of Independence Gulch. The major part of these flows is hornblende andesite. Other varieties of lava were recognized but no attempt was made to differentiate them into mappable units. The andesitic rock has a dark greenish-gray color on fresh fractured surfaces, and plainly discernable plagioclase phenocrysts. The greenish color of the rock matrix results from an abundance of chlorite. The rock weathers to a rusty-brown color.

The flow capping Porphyry Peak, east of Independence Gulch, is a greenish-black, porphyritic augite andesite. Similar remnants cap ridges and peaks, at nearly the same altitudes, to the northwest and northeast.

The irregular eastern contact of the andesitic flow resting unconformably on the underlying Milligen formation, suggests that the lava was poured over an uneven surface, probably a lowland area or valley with its attending foothills. The long spurridge of Milligen that penetrates the lava adjacent to Elkhorn Gulch, indicates that the old land surface in that area, had a gentle dip to the southwest.

Intrusive Rocks

Dikes.- All intrusives noted in the area are described as dikes, although many are more like sills, lying almost in the bedding of the enclosing host rock. For the most part they are andesitic in composition, although a horn-blende-granite dike crops out on the Bald Eagle property, and basic lamporphyre dikes are common throughout. The dikes vary in thickness from a few inches to over 15 feet, and have short strike lengths, lensing out at the ends. The general strike is northwest and the dip is to the southwest at varying angles; there are several exceptions. They are chiefly confined to thin-bedded argillaceous members of the Milligen formation, although andesitic dikes crop out in the more competent Wood River rocks above the Baltimore mine. At the outcrop, the more acidic porphyritic dikes usually weather to shades of greenish gray in which the light gray outlines of the plagioclase phenocrysts are plainly visible. These plagioclase phenocrysts commonly measure up to three-eighths of an inch in length. The black, aphanitic, lamporphyre dikes are usually fresher and less affected by alteration.

Underground, light colored andesite porphyry dikes are common in the larger shear zones, although occasionally they wander off into the walls in relatively unfractured rocks, as in the Bonanza tunnel of the Baltimore mine. In the shear zones dikes are often crushed and hydrothermally altered to a whitish gouge-like material, much the same as some types of fault gouge. It is evident that during intrusion the magmatic material followed shear zones and was deformed by subsequent fault adjustment. In their crushed condition they were more easily altered by migrating solutions. Those dikes away from the shear zones are less altered.

Inasmuch as the dikes are common in shear zones they are often contiguous to ore bodies, and have even been found partially replaced by sulphides, as in the Bald Eagle mine and in parts of the Triumph mine. For this reason early mine operators commonly drifted on the dikes, thinking they were responsible for the mineralized deposits. The fact is, however, that in those exposures accessible to observation, the

dikes are pre-mineral, and are associated with ore bodies only in that both have favored the more permeable pre-dike and pre-mineral shear zones as sites of deposition. In this respect the dikes are comparable with those occurring in the Milligen formation in other areas (11, p. 12).

Structure

Folding

The Milligen formation is strongly folded and faulted in the Triumph-Parker mine area, but generally strikes to the northwest and dips to the southwest. At the mouth of Parker Gulch the dip has been overturned to the northeast. Throughout the area the formation appears to be the limb segment of a southwest-tilted homoclinal block. An interesting feature of the formation is that only the more competent rocks, limestones, quartzites, and some limy argillites are persistent in attitude. The pliant, incompetent argillites interbedded between have been intensely crumpled and distorted by differential movement, having yielded more readily to deformational stress. In places stress has deformed the argillites beyond their elastic limit, resulting in rupture. This action has emplaced most of the shear zones so common in the argillitic members, particularly those striking northwest and dipping southwest. Such shear zones commonly grade into regions of tight folding and crumpling, both on the strike and dip, with no apparent fracturing. A structure passing into such a crumpled area is difficult to follow in underground exploration, and, on occasion, has been lost completely.

The folded Wood River formation remnants, separated from the Milligen by a thrust fault, indicate that major folding was post-Pennsylvanian. It is probable that folding preceded thrust faulting, though both actions could have occurred somewhat simultaneously. In U.S.G.S. Bull.814, it is suggested that the major period of deformation be correlated with the Laramide orogeny which came near the end of the Mesozoic era.

Faulting

Thrust Faulting.- On North Star and Grouse Peaks, and on the ridge above the Baltimore mine, a major pre-mineral thrust fault separates the Wood River from the Milligen formation. On Baltimore ridge, the fault is marked by a brecciated and recemented zone which is at least 15 feet thick near the portal of the No. 2 tunnel. The fault plane is tilted about 9 degrees to the southwest. On North Star Peak, Merriam (10) describes the tilt as about 17 degrees to

the west. Breccia fragments comprising the zone range in size from microscopic to those an inch in length. They consist of black chert, quartzite, and siliceous limestone, embedded in a siliceous groundmass. The breccia-fragments show a distinct orientation with the long dimension roughly aligned in the plane of thrusting. The thrust zone of the above mentioned fault outliers is comparable in all respects with the one existing near the mouth of Decker Gulch, as described in Bull. 814, and is probably closely related, if not the same.

The tilt of the thrust plane suggests that movement was from southwest to northeast. Thrusting probably originated from compressive stresses from the southwest, active during late folding of the carboniferous sediments.

Reverse faulting.- Reverse faulting, though analogous to thrusting, is herein confined in description to shear zones of a somewhat steeper dip and less regional in extent. Those of chief importance include the Triumph, North Star, Independence, Baltimore, Amicus, Quaker City, and the Parker shear zones. Locally, minor wisps of drag folding in the walls adjacent to the shear zones are indicative of normal fault action; however, this is probably the result of gravitational adjustment at some period after formation of the fault. A major period ofoblique, reverse fault movement is suggested by larger drag folds, fault attitudes, and the almost universal existance of a well defined slickensided hanging wall, commonly with pronounced mullion structure. Hersey (1, p. 176) described the Independence lode as being on a reverse fault, and bases his conclusions on local stratigraphy. Merriam (10) advances the theory that the principal component of movement along the North Star and Triumph fissures has been of a reverse dip-slip nature. The major reverse faults, for the most part, strike in a west-northwest direction and dip moderately to the southwest, usually at angles less than the southwest dipping bedding of the host rock. They are pre-mineral faults that probably originated from the same compressive stress that gave rise to the above-mentioned thrust fault. They favor the incompetent argillites as host rocks and frequently merge into zones of tight and crumpled folding. Ore found within these zones of shearing is often broken and intermingled with fault gouge, although nowhere is there evidence of major post-mineral displacement within the plane of reverse faulting. It is believed that where post-mineral fracturing does occur, in the plane of shearing, that it is only a minor structural readjustment.

In addition to those reverse faults mentioned above there are others that are more properly described as flat faults. These are observed in many mine workings but not in enough detail for accurate description.

In the Triumph mine a set of pre-mineral flat faults are tilted in a westerly direction, which would suggest that they too are allied with a compressive stress acting from the southwest.

Normal faulting.- There appears to be several patterns of normal faults in the area, both pre- and post-mineral, some of which cannot be described from the data on hand.

A pattern of pre-mineral normal faults, striking northeast and dipping steeply southeast occurs in upper Parker Gulch. (Fig. 16). Maximum displacement measured in this fault pattern was about 350 feet, apparently with the hanging wall being displaced to the southwest. Whether this fault pattern had any effect upon the mineralized Parker and Amicus veins is not known.

The June Day fault, Fig. 21, strikes northwest and dips northeast. It appears to be a pre-mineral normal fault, but its displacement was not determined.

There are other faults, most of which strike in a northerly or northeasterly direction, about which little is known. They commonly offset lithologic members but are either concealed by debris or too indefinite to map. It is believed that pre-mineral normal faults are associated in some way with stress that emplaced the thrust and reverse faults, though such a postulation cannot be proved. One possibility is that they are resulted from lateral stress developed during thrusting movement. This could account for their near-normal strikes to the strikes of the major reverse faults.

Post-Mineral Normal faults.- Throughout the area there is a pattern of post-mineral normal faults striking to the north and northeast, and dipping northwest and north. Some of these faults offset mineralized structures. The best example of this type of faulting occurs in the western portion of the 700-level of the Triumph mine. Another example is the North fault as exposed in the Bonanza tunnel in the Baltimore mine. (Fig. 20).

There are undoubtedly many faults in the Triumph-Parker mine area that have not been recognized. The absence of reliable horizon markers and occurrence of heavy surface mantle interferes with interpretation, not only of folded structure, but of faulting as well. For this reason no attempt was made to map faults inferred by topography or by drainage patterns.

The existence of many of the inferred normal faults, postulated in Bull. 814, p. 70, is doubted. An example of such an inferred fault is the normal fault a few hundred feet west of the Lucky Coin portal, which reputedly separates the Milligen formation from andesitic flows.

Recent mining exploration has failed to confirm this fault. The Lucky Coin tunnel penetrates the Milligen-andesite contact, but shows no evidence of fault separation. Furthermore, at the tunnel contact, limestone fragments from the Milligen formation have a weathered appearance, similar to those now existing at the outcrop. Such an underground rock condition suggests an ancient land surface that was later covered with lava. The 700-level of the Triumph mine also penetrates andesitic flows with no indication of a fault contact.

ORE DEPOSITS

Classification of the Deposits

The ore deposits of the Triumph-Parker mineral belt fall into two groups: (1) mineralized fissures or shear zones, most of which strike in a west-northwest direction and dip to the southwest at moderate angles usually 30-35 degrees; (2) replacement deposits occurring at the intersection of mineralized shear zones and susceptible limestone members. Both types are found only in the Milligen formation.

Included in the first group are the deposits worked in the Triumph, North Star, Independence, Baltimore, Parker, Lucky G. I., and possibly Elkhorn mines. The second group includes the bedded siliceous and "complex" ores of the Triumph and North Star, and deposits in the June Day, and part of the Bald Eagle. In addition to these, part of the ore mined in the mineralized shear zones occurs as a replacement of sheared calcareous material, and not as fissure filling.

In general, ore throughout the district has similar characteristics. It is of value primarily because of its lead, zinc, and silver content, although there are exceptions. Fissure ore in the Triumph mine is higher in gold values than are the replacement deposits. The "complex" ore at the Triumph consists of galena and sphalerite in a pyritic gangue; there is little quartz or siderite present. The replaced ore at the June Day is largely gold, with little galena or sphalerite present.

Deposits in Shear Zones

The mineralized shear zones form the most common ore deposits in the district. For the most part, they are west-northwest striking, southwest dipping, pre-mineral reverse faults, some of which may be traced at the outcrop by vegetation markings. They favor the more incompetent argillitic members, probably because these rocks yielded more readily

to stress than the more competent quartzites and limestones. The shear zones range in thickness from a few inches to over 40 feet. In places they consist of a few gouge or graphitic-faced fractures, elsewhere they broaden into heavy shear zones composed of a multitude of close-spaced slickensided slips. Such zones occasionally grade into highly crumpled and fractured areas in which trace of the shear zone is difficult to follow, and may even be lost. Ore and gangue minerals are unequally distributed along the zones of shearing. They commonly occur as pods and lens-like aggregates or as streaks and stringers intermingled with fault gouge. Occasionally the ore is massive, but is more likely to be somewhat granulated, possibly owing to post-mineral movement in the fissure. Ore is often contiguous to igneous dikes in the shear zones, and, on occasion, has replaced dike material.

The shear zones are not simple planes but show sinuous surfaces and many irregularities. It is evident that during the time of mineralization the greater part of the individual shear zones, being heavy with gouge and sheared material, were too tightly compressed and impermable to permit entry of the mineralizing solutions. Only in the more open areas, or those irregular sections reopened by recurrent fault action, were there sites available for mineral deposition. Such fault action has accounted for a large part of the stringers and discontinuous lens-like ore shoots commonly found. In some calcareous sections of the shear zones mineralizing solutions replaced the limy substance thus forming deposits in part fissure filling and in part replacement.

Some ore shoots occur where shear zones truncate the bedding of thinly-laminated argillites. In these areas slippage along the shear zone apparently produced torsional stress which parted the adjacent bedding planes, thus creating sites for mineral deposition. In such areas ore appears to leave the fissure and curve into the bedding as wisps and irregular veinlets, extending only a few inches or feet. Such ore formed chiefly as void-fillings; there is little evidence of replacement of the more impermeable argillite. Ore shoots of this general type are mentioned by Merriam (10) as occurring in the Triumph mine. This type also occurs in the Amicus vein, in the Quaker City workings, and probably in the ore shoot near the face of the No. 6 level of the Baltimore mine and extending upward.

The principal gangue minerals of the shear-zone deposits are altered wall rock, quartz, calcite, and siderite. In some cases pyrite is an important gangue mineral. Important metallic minerals include galena, sphalerite, tetrahedrite, and ruby silver. The Triumph vein also con-

tains appreciable gold. Quartz and calcite appear to have been the first minerals deposited, followed by sphalerite, galena, and tetrahedrite in that order. Ruby silver ores have been among the latest deposited. Judging from the brecciated and cross-cutting relationships, ore deposition was not continuous but was recurrent. In some instances younger sulphides appear to have replaced older sulphides. Illustrative examples are lenses and pods of lead ore that thin out on the ends to zinc ore. Such lenses were probably originally filled with sphalerite, only to be brecciated by recurrent faulting and replaced by later galena.

There is no evidence of mineral zoning in the shear-zone deposits, nor can any ratio be fixed on the lead-zinc-silver values. At some spots the ore shoots may be high in zinc values, elsewhere they run more to lead and silver.

REPLACEMENT DEPOSITS

Replacement deposits occur in limestone members that have been intersected by certain shear zones. The shear zones have provided avenues of approach for invading mineralizers, which, upon encountering susceptible limy members, have diffused into the rocks, deposited their mineral load and carried the replaced limestone away in solution. This type of mineral deposition has locally built up large irregular deposits with ore values gradually fading away from the shear zone. An example is the stoped deposit in the June Day fault hanging wall on the No. 3 level of the June Day mine. Recognition of the replaced deposits is often aided by preservation of textures and structures of the original limestone. This is particularly true of the bedded siliceous deposits in the Triumph mine where host-rock bedding is plainly evident.

The bedded siliceous and "complex" ores of the Triumph and North Star mines form the largest of the known replacement deposits. In the past "complex" ore accounted for the bulk of Triumph production. One ore shoot of "complex" is described by Merriam (10) as: "....an area roughly 700 feet wide by 170 feet long with a thickness varying from six feet in the upper part to fifty feet below." .....

GENESIS OF THE ORE DEPOSITS

The origin of the ores in this area is somewhat debatable. Former writers (1, pp. 101 and 10) who have studied the district, note that major mineralization is related to the Idaho batholith and its satellites, and to orogenic disturbances that accompanied its emplacement, probably in late Jurassic or Cretaceous time. They point to croppings of granitic rocks in nearby areas and call attention to the partially metamorphosed condition of the Milligen formation, suggesting that it is underlain at no great depth by plutonics. On the other hand, there are those who recognize the orogenic disturbances that accompanied intrusion of the batholith but who believe the ores to be genetically related to younger period of Tertiary igneous activity (6). Perhaps a closer appraisal as to the origin of the ores may be found in a study of the andesitic dikes so common in mineralized shear zones. The altered and occasionally replaced condition of these dikes implies that many of them are pre-mineral in age. Furthermore, the fact that similar andesitic dikes are found cutting the granitic rocks west of Bellevue, presumably related to the Idaho batholith, implies a younger age for dike intrusion. Although no dike and volcanic flow contacts were found, U. S. G. S. Bull. 814, p. 61, mentions occurrences of volcanic flows covering truncated porphyritic dikes, which leads one to believe that the dikes and accompanying or subsequent mineralization are pre-volcanic in age. This would place their age as post-batholith and pre-volcanic, or early Tertiary.

Groundwork for mineralization apparently was laid during the orogenic disturbance that folded and faulted the carboniferous sediments, probably in Jurassic or Cretaceous time. The major fault patterns were formed at this time. At a later date these shear zones were invaded by igneous dikes, which offers evidence that these shear zones are of major extent and had access to magmatic masses below. Recurrent faulting in the shear zones followed, and may have been concurrent with dike invasion, as testified by the sheared and granulated condition of so many of the dikes. It is probable that mineralizing solutions, ascending from the underlying magmatic bodies, found a means of access along the shear zones during this later stage of fault adjustment. As these solutions ascended and found favorable sites for deposition, they deposited their mineral load as fissure filling and as replacement of certain susceptible limestones encountered both within and adjacent to the shear zones. Textures and mineral associations suggest that the zone of deposition was only moderately deep. Fault adjustment was probably continuous throughout the period of

mineralization, inasmuch as a static faulting condition would have become choked and impervious to mineral deposition. The brecciated and granulated condition of the earlier deposited minerals, i. e., quartz, pyrite, sphalerite, and galena, tends to confirm this observation. It is believed that the inter- and post-mineral fault adjustments in the major shear zones have been minor, and have not displaced the ore bodies to any great extent.

There is no appreciable oxidation zone in the Triumph-Parker mine area. Occasional traces of secondary lead ores are found in mine workings near the surface; however, there are no instances of ore deposits being enriched by descending secondary mineralization. Absence of an extensive oxidized zone suggests that erosion of the overlying rock has been rapid enough to keep abreast of oxidation.

CONCLUSIONS

It is believed that the ore bodies of the Triumph-Parker mine mineral belt should continue below the lowest depths yet reached by mining. The deposits are of a moderately deep seated character and would be expected to continue on to greater depths. Ore bodies should occur in the mineralized shear zones in those areas that were accessible to mineralizers during the period of sulphide mineralization. These depositional zones will be found only by continued exploration. There is no evidence of a major fault pattern which might cut off the deposits with depth.

It is suggested that in any future exploration of the mineralized shear zones, that they be closely followed. Too many past exploration programs have attempted to gain "backs" by driving lower crosscut workings. Often, in doing so, they have completely lost the sought-after structure. In disturbed and contorted rocks, such as the Milligen formation, projection of mineralized structure through several hundred feet of unexplored ground is hazardous and is to be avoided whenever possible. Furthermore, to adequately explore these shear zones demands mine workings within the zones of shearing. The scattered and pod-like occurrence of the ore bodies makes it easy to intersect a barren zone with a crosscut, which often tends to discourage further exploration of the sheared area. For the same reason, diamond drilling has often proved valueless not only in that core recovery is difficult in the crumpled Milligen formation, but in that intersected barren parts of the shear zone are uninformative.

PARKER MINE

Location and Development

The Parker mine is 6.7 miles east of Ketchum, in Parker Gulch. It comprises 6 patented mining claims covering portions of Sect. 10 and 11, T. 4 N., R. 18 E., Boise Meridian. The property is held by the Amicus Trust, currently under the management of Mr. Heber Comer of Ketchum, Idaho.

There are four tunnels on the property that explore the Parker vein. These include the Western Reserve, Blacksmith, Montgomery, and the St. Louis, (Fig. 19.) Other mine workings include the lower Parker tunnel, and the Amicus and Gondolier. The latter two explore the Amicus vein. Several smaller diggings are scattered throughout the property. All workings are in the Milligen formation.

According to Bull. 814 the Parker deposit was discovered in 1883 by Eugene Gillenwater. During the next 15 years the property produced 1,552 tons of ore carrying 1,106,463 pounds of lead and 300,236 ounces of silver; the bulk of which was taken from one ore shoot about 75 feet long, extending from the Blacksmith level to some distance below. Bulletin 814 quotes the manager of the mine at the time of its production, who stated that the ore shoot was followed by a winze driven on the 30 degree dip of the vein for about 500 feet. At that point the vein terminated against a steeply dipping fault and no ore was found beyond.

At a later date the Montgomery tunnel was driven at a lower level to intersect the downward continuation of the Parker vein but this long tunnel and its accompanying crosscuts failed in their efforts.

The property has been worked intermittently since 1938 with the lower Parker tunnel, the Amicus tunnel, and the raise near the face of the Montgomery tunnel receiving most of the attention. It was idle during the summer of 1949.

GEOLOGY OF THE PARKER VEIN WORKINGS

The Parker vein crops out across a small ridge between the Blacksmith and Western Reserve tunnels. It strikes N. 72 deg. E. and dips 35 deg.SE. The vein has been explored by numerous pits which expose it as a rust-colored quartz-bearing shear zone whose average width approaches four feet. The vein wall rock is dark carbonaceous argillite. Although the vein is oxidized on the outcrop, the quartz when broken often presents fresh sulphides. An assay taken on the outcrop went .03 ounces in gold per ton, 17.5 ounces in silver perton, and 30 per cent lead (12). The vein may be traced up the hill beyond the Western Reserve tunnel but is soon lost beneath surface mantle.

The Western Reserve tunnel is caved 75 feet from the portal, and, in the area accessible, presents nothing but an 18-inch barren quartz vein.

During recent years the Blacksmith tunnel has been reopened for a distance of 350 feet; however, much of the tunnel is tightly lagged, making geologic observations difficult. The innermost 150 feet of tunnel follows the Parker vein, a pronounced shear zone striking almost east-west and dipping about 30 deg. S. A 30-inch quartz and calcite vein, containing some sulphides, occupies most of the shear zone at the caved face. The country rock adjacent to the footwall of the vein is a shiny, graphitic material with abundant slickensided surfaces. It has a greasy feel when touched and readily soils the hands. The graphitic substance is probably the result of metamorphism of bituminous material that was deposited with the argillitic country rock. According to an old mine map, 110 feet beyond the caved area a 500-foot winze was driven from the Blacksmith level. Several sub-levels and stopes led from the winze, all long since caved and now inaccessible.

The Montgomery tunnel, driven during the early 1900's, was reopened by Mr. Comer, who advanced a raise at the tunnel end to intersect the lower workings driven from the winze extending from the Blacksmith level. The tunnel and raise contain "bad air," and unless the air compressor is operating, forcing compressed air back to the raise, entry is hazardous and even then is restricted to the main tunnel. For this reason the tunnel was not mapped in detail, but a tracing of the

tunnel workings was obtained from a previous map. (Fig. 19). A small dike of andesitic composition is followed by the main tunnel, and by one short crosscut, and while it is reported to contain some gold values there is no evidence of lead-silver mineralization.

The St. Louis tunnel intersects and drifts on a flat dipping shear zone, which locally contains quartz lenses and stringers, and often good showings of sulphide ore. Where thickest, the vein dips from six to twelve degrees, elsewhere in areas of steeper dip the vein pinches. Near the winze the vein is four feet thick and contains abundant exposures of galena, sphalerite, tetrahedrite, and some ruby silver. Assays from this area run as high as 114 ounces of silver per ton, and 49.8 per cent lead. The ore is somewhat oxidized in the footwall areas of the shear zone. Crushed and dislocated quartz fragments suggest post-mineral shearing in the plane of the vein. Intricate drag folding of the thin-bedded argillite indicates the shear zone is a reverse fault, with perhaps minor normal fault adjustment.

Across the draw from the St. Louis portal, a 60-foot adit follows a major fault, striking N. 73 deg. E. and dipping 48 deg. SE. This, the St. Louis fault, displaces a 90-foot quartzite member 350 feet to the right, as the fault plane is faced. (Fig. 19). Although it cannot be proved, lithology of the faulted area suggests that the fault is normal.....

CONCLUSIONS

A study of the surface area, coupled with observations of vein structure in the Blacksmith and St. Louis tunnels, leads one to believe that the Parker and St. Louis veins, as shown in Fig. 19, are are the same structure. This conclusion is supported by cross sections drawn through the various workings. If such is the case, the Montgomery workings were of little value in the exploration of the Parker vein because they were too far in the footwall, a conclusion supported by their negative findings.

The Parker vein is said to be cut off by a steeply dipping strike fault somewhere near the bottom of the winze driven from the Blacksmith level. Inasmuch as this area is now caved, nothing could be learned of the nature of the fault. A projection of the St. Louis fault, as exposed in the short adit across the gulch from the

St. Louis tunnel, would intersect the Parker vein somewhere near the base of the winze and could possibly be responsible for termination of the vein in that area. Such a postulation would, of course, have to be investigated by further exploration.

RECOMMENDATIONS

The St. Louis tunnel area should be given priority in any future exploration program. The vein in this area is quite probably the continuation of the Parker structure, and, as such, represents an unexplored and promising part of that structure.

Continued advancement of the raise near the face of the Montgomery tunnel is likely to prove unsuccessful. The fact that it will intersect old mine workings comprised of several hundred feet of drifts, raises, and stopes, now flooded and caved, will not only be dangerous to mining operations but will likely be valueless because these areas have been previously explored.

From U. S. G. S. BULLETIN 814

PARKER MINE

The Parker mine is about 4 miles east of Ketchum in Elkhorn Gulch, in Sec. 10, T. 4 N. R. 18 E. The deposit is reported to have been discovered August 3, 1883, by Eugene Gillenwater, who found fragments of ore near a badger hole and eight days later made his first shipment, a carload which netted $1,003. The table below, compiled from records in the office of E. Daft, in Hailey, shows that 1,552 tons of ore carrying 1,106,463 pounds of lead and 300,236 ounces of silver was mined up to the end of 1898. More than half of this was treated at the smelter at Ketchum, and the remainder was shipped to smelters in Utah. There has been no production in recent years. The mine is reported to have yielded up to May 10, 1886, a total of $283,811.50 over and above freight and treatment charges, which averaged about $2 a ton. In depth the ore abutted against a fault gouge, and persistent efforts to find the vein beyond the fault have failed. The last of these attempts was made in 1911 and 1912, when a large amount of tunnel and crosscut work was done on lower levels.

(Attached is list of shipments above referred to).

The vein conforms nearly to the bedding of the inclosing Milligen argillite, which dips about 30 deg. SW. The rock is dominantly black calcareous argillite inclosing thin layers of bituminous limestone and has been intricately shattered. Along the fracture planes are films of graphite so pure that the hands are immediately soiled in touching unweathered material. ..... Igneous rocks occur only as dikes, although a short distance to the west there is a large area in which contact-metamorphic minerals are abundantly developed. A specimen of dike rock collected from the roadside in the vicinity of the lower tunnel is vogesite, one of the lamprophyres, and another specimen found as float on the hillside near the Blacksmith shop is a fine-grained graphite porphyry.

The vein material consists of galena, zinc blende, iron pyrite, tetrahedrite, and polybasite in a quartz-calcite-siderite gangue. .....

The ore shoot that afforded the mine's production is said by Jenney, who was manager when the property was in operation, to have been about 75 feet long and to wedge out to a seam of calcite on the ends. It was followed down on the 30 deg. dip of the vein for 500 feet and terminated against a steeply dipping strike fault. The fault gouge contained no drag ore, but the ore against it was smooth and striated, suggesting a slight postmineral movement along a premineral fault plane. No ore has been found beyond the fault. The ore averaged between 7 and 8 feet in width and was roughly banded. Next to the hanging wall was 8 inches of quartz and galena; then a band of massive galena from 3 to 4 feet thick, which carried about 200 ounces of silver to the ton; next was 2 feet 8 inches of galena, gray copper, and polybasite, which carried from 1,000 to 3,000 ounces of silver to the ton; and between this band and the footwall was an 8-inch band of white quartz and gray copper containing from 100 to 500 ounces of silver to the ton. Sphalerite occurred only in the border portions of the vein. At a distance of 3 to 15 feet from the main vein in the footwall a parallel vein of galena, narrow but exceptionally free from gangue minerals, was also worked.

PARKER GROUP OF MINES

(These Figures Taken From Photostatic Copies of Shipments Made Through the Hailey Sampler, Records of Mr. Daft.)

Date	Dry Wt.	Tons	Silver Oz.pr.T.	Total Silver	Lead %	Total Lead
10/6/83	5280	2.64	319.37	843.14	30.5	1610
11/27/83	5596	2.798	324.62	908.29	46.5	2602
1/5/84	20385	10.293	135.50	1392.95	40.	10293
1/19/84	30608	15.804	153.12	2343.35	70.	21426
1/26/84	21900	10.950	146.55	1604.72	65.5	14392
1/26/84	23375	11.688	140.40	1641.35	42.5	9934
2/8/84	15757	7.879	148.74	1171.92	71.5	11266
2/8/84	8938	4.469	178.35	797.05	42.	3751
3/8/84	23727	11.864	174.26	2067.42	70.	16609
3/8/84	19859	9.930	153.69	1520.48	35.5	7050
3/12/84	2020	1.010	1108.32	1119.40	10.	202
3/12/84	22167	11.084	153.12	1697.18	70.70	15672
3/22/84	8171	4.086	170.33	694.97	37.5	3064
4/16/84	8032	4.016	408.36	1639.81	9.	723
5/17/84	34388	17.194	236.23	4071.74	68.	23384
5/21/84	28432	14.216	319.83	4546.70	68.	19334
5/24/84	23336	11.668	191.25	2236.51	30.	700
6/4/84	29937	14.969	193.94	2903.09	27.	8083
6/6/84	21052	10.526	174.24	1834.05	71.	14947
6/25/84	24823	12.412	148.46	1842.69	70.	17376
7/3/84	30288	15.144	131.57	1992.50	23.	6966
7/6/84	27265	13.633	190.	2590.27	70.	19086
7/31/84	27256	13.628	119.67	1630.86	34.2	9322
8/7/84	38146	19.073	170.	3242.41	73.12	2805
9/6/84	27500	13.75	297.90	4096.13	66.	18150
9/16/84	19455	9.728	189.60	1844.43	43.	8366
9/17/84	9138	4.569	221.2	1010.66	66.7	6095
9/20/84	6207	3.104	349.8	1085.78	58.	3600
9/22/84	23075	11.538	265.82	3067.03	23.2	5353
10/8/84	25143	12.572	164.	2068.09	61.2	15388
10/10/84	24531	12.266	190.	2330.54	58.	14228
10/17/84	40792	20.346	283.2	5776.15	47.5	19376
10/22/84	38966	19.483	449.2	8751.76	46.	17924
10/27/84	37007	18.584	422.9	7825.34	37.	13693
10/29/84	33471	16.736	271.5	4543.82	39.	13054
11/6/84	35674	17.837	250.7	4471.74	35.5	12664
11/12/84	39049	19.525	226.	4424.37	34.5	13472
11/23/84	41392	20.696	174.65	3614.56	40.	16557
12/7/84	40169	20.085	220.	4418.70	52.5	21089
12/15/84	40285	20.143	227.3	4578.50	49.5	19941
12/18/84	40367	20.184	191.70	3869.27	67.	27046
12/19/84	13678	6.839	188.5	1289.15	40.7	5567

PARKER GROUP OF MINES

Page 2
Early Day Shipments

Date	Dry Weight	Tons	Silver Oz. pr.T.	Total Silver	Lead %	Lead Total
1/3/85	50345	25.173	262.50	6607.91	56.5	28445
1/7/85	50188	25.094	467.80	11638.60	54.	27102
1/9/85	30156	15.078	560.50	8451.22	47.	14173
1/16/85	30417	15.207	663.60	10091.37	40.	12165
1/31/85	30452	15.226	204.	3106.10	56.5	17205
1/31/85	31543	15.772	245.6	3873.60	55.5	17506
2/2/85	30378	15.189	374.	5680.67	48.7	14794
2/4/85	30582	15.291	433.50	6628.65	36.6	11193
2/23/85	30940	15.470	405.20	6269.99	47.5	13459
2/23/85	30057	15.027	282.30	4242.12	32.5	9767
2/25/85	30725	15.363	225.	3456.68	41.	12597
3/2/85	30275	15.118	257.80	3892.42	33.	9978
3/9/85	30360	15.180	175.60	2665.61	41.8	22690
3/18/85	29852	14.926	240.60	3591.20	38.5	11493
4/23/85	30859	15.430	243.	3749.49	43.5	13424
4/25/85	31571	15.786	192.40	3037.23	58.5	18469
4/30/85	31268	15.634	380.10	5942.48	46.	14383
5/6/85	31347	15.674	385.80	6047.03	46.	14420
5/30/85	31060	15.530	205.60	3192.97	51.	15903
7/1/85	30072	15.036	416.	6254.98	49.	14735
3/19/86	7270	3.635	32.7	118.86	7.	509
3/19/86	2991	1.496	120.5	180.27	59.	1765
3/23/86	6677	3.339	128.3	528.39	23.5	1569
3/23/86	2900	1.450	147.3	213.59	60.	1740
4/6/86	4671	2.336	94.8	221.45	36.5	1705
5/16/86	1991	.996	128.3	127.79	59.7	1189
5/16/86	21959	10.980	131.6	1444.97	39.	8564
5/16/86	1891	.946	913.1	863.79	60.	1135
6/16/86	8662	4.331	158.9	688.20	49.	4244
6/20/86	20911	10.456	100.9	1055.01	16.6	3471
8/17/86	5345	2.673	211.5	565.34		
8/17/86	1485	.743	78.1	58.03		
11/20/88	11644	5.822	190.7	1110.26	52.6	6125
12/14/88	11593	5.797	100.6	583.18	27.	3130
2/20/89		6.8	224.		37.	
6/4/89		4.5	297.8		52.	
6/4/89		2.2	167.1		32.5	

The foregoing is a copy of the record of shipments which we obtained from Mr. Daft's photostatic copies. Reliable sources have informed us that the foregoing is but a portion of shipments made but the figures for total production are not available to us.

From Personal Communication
By Willard P. Fuller, Jr.

Eureka, Utah
November 5, 1947

Mr. Heber Comer,
Ketchum,
Idaho.

Dear Mr. Comer:

I was pleased to receive your letter of October 20th, and since then have given considerable thought to how your questions might best be answered.....

In regard to the Parker Mine, there might be several ways of making your proposed connection. (1) Drift south as shown for approximately 75 feet, and raise to that level, about 115 feet vertically. (2) Drift 175 feet southerly as shown, and raise to the winze, about 85 feet vertically. (3) Or drift to point (3) and raise 115 feet vertically. (4) Drift to point (4) and raise 85 feet to the old level. I would favor method (2), as you would be in a better position to use the winze for working below that level, and as that level has a drift out to the east that might warrant more work if geological mapping should indicate that. .....

I would strongly recommend a transit survey, from the proposed drift, out the Montgomery tunnel, up to the Blacksmith tunnel, in and down the winze to the proposed connection. Such a survey, if properly done by a qualified mine surveyor, would certainly be worth the expense.

The proposed raise should be a two-compartment timbered raise, so that you can have a manway and a separate chute for handling much,

In the absence of geological maps of the Parker, it is difficult to recommend specific development. In general, two projects would seem to be most promising. First, to see if the vein continues eastward, toward the Hailey-Triumph area (either from the Blacksmith tunnel or a lower level), and second, to see what sort of a fault cut off the bottom of the ore, and if a solution of the fault displacement might reveal a continuation of the original ore shoot.

There is a possibility that some of the International field geologists might get up to Hailey next spring. If the Parker mine were opened upat that time to permit mapping of the more important of the old workings, it is possible that the company might be able to do this mapping for you. I would suggest that next spring you write to Mr. M. B. Kildale, Chief Geologist, International Smelting & Refining Co., stating the accessibility of the Parker workings, and ask if there is a chance that the company might do some geological mapping, to assist you in future development.

Sincerely yours,

(Signed) Willard P. Fuller, Jr."

Sept. 8, 1948

Dear Mr. Comer:

I was glad to receive your letter, and particularly interested to know that you were working in the raise, to connect the Montgomery tunnel with the upper Parker workings. As I remember, we thought that by raising 10 to 15 feet, and by fanning out longholes from the upper walls of the raise, a connection would be made. The best estimate possible from the available information indicated that the workings of Level No. 5 would lie from 30 to 40 feet above the track level of the Montgomery tunnel, but this is just a guess. According to the map, the No. 5 level would lie about 10 feet SW of the raise. It might be a good idea to run a sublevel at 30 feet above the Montgomery track level for 20 feet SW, then at a point 15 feet from the wall of the raise, drill long holes up, down, and at angles of, say plus and minus 60, on the NW and SE sides of the sublevel crosscut. .....

(Signed) W. P. Fuller, Jr."

THE EXPLORATION

20. Lead. Associated minerals are silver, gold, copper.

21. The applicant proposes to diamond drill the beds and the lime formation in the Parker mine from the Montgomery tunnel level, and attempt to locate the continuation of the old Parker ore shoot, as well as open up new shoots of ore, both high grade and milling.

It is believed that the diamond drilling program can be completed in six months.

After completion of the diamond drilling program, and the location of the ore shoots is determined, we would like to drive a lower tunnel, if it is deemed feasible, and develop the property from that level, and at that time work out a development and milling program.

22. Reference is made to Bulletin #90 and Bulletin #814, excerpts from which are attached to Question 16.

A geological map of the Montgomery tunnel is being prepared but it will not be completed in time to include in this application.

Map of underground workings is attached.

THE REQUIREMENTS AND COSTS

23.

(a)	1 Diamond Driller - 150 days @ $13 per day		$1950.00	
	1 D. D. Helper 150 " " $12 " "		1800.00	
	1 Compressor Man 150 " " $12 " "		1800.00	
				$5550.00
(b)	1 Supt.-Mgr. 6 mo. @ $400 per mo.			2400.00
(c)	None			
(d)	None			
(e)	1 Diamond Drill	$2500.00		
	1000' fiber air hose	500.00		
	1 Used Air Blower and 1200' air vent pipe	1200.00		
				4200.00
(f)	None			
(g)	Six months @ $800.00 per month			4800.00
(h)	Gas, oil, miscl. - six months			1500.00
(i)	None			
	Total			$18450.00

24. The foregoing estimate is based upon six months operations.

Estimated diamond drilling is 10,000 feet, an average of 1500 feet per month.

Estimated average monthly expenditure $3075.00.

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 324X

Date received 6-8-51

Participation

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 8 - 1951
LANDON F. STROBEL
Executive Secretary

Parker Mining Company, Inc.,
Box 938
Ketchum, Idaho

Name and address of applicant

Date May 28, 1951

FILL IN THIS BLOCK

Date of application May 28, 1951

Estimated cost $18,450.00

Mineral or metal Lead

Percentage of Government participation Fifty per cent.

Location of mine Sects. 10-11, Tp. 4 N.R.18 E. of B.M., in Warm Springs Creek Mineral Dist., Blaine County, Idaho; approx. 6 mi.E. of Ketchum, Idaho, in Parker Gulch.

Date of filing MF-100

DMA Docket Number, if available 324

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? Corporation

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

*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders. See Page 1 attached.

*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project. See Page 2 attached.

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

6. If owner, state what claims, liens, or encumbrances, if any, are against the property. See Page 2 attached.

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. See Page 3 attached.

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)? See Page 3 attached.

*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 Page 4 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. Parker Mine

*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 Page 4 attached

*13. State source and quantity of water available for operations and its sufficiency at all seasons. See Page 4 attached. State amount of power to be used, rate per hour or other cost, and source. See Page 4 attached.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. See Page 4 attached.

15. State in detail how the ore could be shipped and how and where milled. See Page 4 attached.

*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 Pages 5 & 6 attached.

(*b*) State briefly the known history and production of adjoining and neighboring properties. See Page 6 attached.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations. See Page 6 attached and Pages 7 to 36.

*17. Production:

(*a*) If mine is in production, furnish the following information. Mine is not in production.

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

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

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

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

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

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

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted? See Page 37 attached.

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. See page 37 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. See page 38 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 page 39 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. See Page 39 attached.

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.

Parker Mining Company, Inc.,
(Name of company)

By Hubert Comer
(Signature of authorized official)

May 28, 1951
(Date)

Manager
(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

THE APPLICANT

3.	Howard W. Hill	Carlsbad, California	President and Director
	G. W. Burgess	Twin Falls, Idaho	Vice-President and Director
	Frank Brown	Twin Falls, Idaho	Secretary-Treasurer and Director

Five Largest Stockholders

Heber Comer	Ketchum, Idaho	Manager
Howard W. Hill	Carlsbad, California	
O. S. Burgess	Twin Falls, Idaho	
G. W. Burgess	Twin Falls, Idaho	
Henry Rees	Twin Falls, Idaho	

Note: The annual meeting of the corporation will be held on May 28, 1951, at which time new directors will be elected. The proposed new directors are Mr. Heber Comer, Dr. Howard W. Hill and Mr. E. . Adkins, whose address is Richfield, Idaho.

4. In 1947 the Amicus Trust, through Heber Comer, Trustee, purchased the Parker Mine. The Trust held title to the property until August, 1949. In 1949 the Amicus Trust was converted into a corporation, namely, Parker Mining Company, Inc., an Idaho corporation, and title to the Parker Mine was conveyed by the Trust to the corporation.

Practically all of the recent work on the Parker Mine was done by the Amicus Trust during its ownership. This work consisted of cleaning up old workings, dewatering, retimbering, drifting, raising, etc. These operations were under the supervision and management of Mr. Comer, and future operation of the mine will be under his supervision and management. Mr. Comer has had more than fifteen years experience in mining, in tunnel work, and the various phases of development.

The Amicus Trust financed its mine operations under the management of Mr. Comer; selling costs were held to a minimum; funds raised were used for organization costs, purchasing the property, purchase of equipment, and actual mine development, the operations being conducted on the most economical basis possible under existing conditions. Neither the Amicus Trust nor the Parker Mining Company, Inc., has permitted promotional selling of its stock. The controlling interest in the corporation is held by Mr. Comer.

6. There are no encumbrances or liens on the Parker mining property.

9.

Balance Sheet
Close of Business July 31, 1950

Assets:

First Security Bank, Hailey, Idaho	$ 42.18	
Special Deposit-State Ins. Fund	100.00	
Organization, Incorporation Costs	766.82	
Assays	101.38	
Geological & Engineering	992.99	
Lease & Properties	5284.91	
Road Improvement	481.50	
Equipment Purchased	8240.42	
Mine Development Cost	36484.11	
Total		$52494.31

Liabilities:

Federal Withholding Tax Accrued		533.70	
Federal Old Age Benefits Accrued		114.00	
Accounts Payable, Salary Heber Comer		7265.60	
" " Cash advances "		453.07	
Realized from sale of Units & Stock	$45170.00		
Less Commissions paid & allowed	1041.96.		
		44128.04	
			$52494.31

Note: No appraisal of property owned by the corporation has been made.

Note: The foregoing is the last balance sheet made. Since July 31, 1950, some funds have been raised but the property has been inactive. At present we are raising funds through the sale of stock to continue operations, up to $10,000.

Applying rental on equipment in accordance with Section 9 of Mineral Order 5 we will have sufficient funds to cover our one-half of the cost of operating under the proposed loan.

THE PROPERTY

10. (a) The Parker Mine, consisting of 6 patented claims, namely:

(b) The Parker, Montgomery, St. Louis, Western Reserve, Una and Uva patented mining claims, situated in Sections 10 and 11, Tp. 4 N. R. 18 E. of Boise Meridian, in Blaine County, Idaho. The property is in the Warm Springs Creek Mineral District, in Parker Gulch.

12. The Parker Mine is located approximately 6½ miles East of Ketchum, Idaho, which is the railroad shipping point; it is 4.3 miles North of U.S.Highway #93, on good road, with about a 5% grade. The road may easily be kept accessible throughout the year.

13. Two large springs which flow throughout the year will give ample water for all mining and/or milling purposes; in addition there is water from the mine tunnels.

14. Two 105 Schramm Compressors
1 Tugger Hoist
1 Sinker Pump
1 Pressure Tank
1 Receiving Tank
1 Dressing Block
1250 feet of pipe
1500 feet of track
Small Tools
1 1½ ton truck

15. The ore can be trucked to railroad shipping point, Ketchum, Idaho; from there shipped to the smelters at Salt Lake City, Utah, a distance of about 300 miles. The truck hall from mine to railroad would be about 6½ miles.

16. The early development of the Parker Mine is referred to in excerpt from U.S.G.S.Bulletin 814, and the recent report made by the Idaho State Bureau of Mines, Bulletin #90, attached to this application.

Along with other mines in the Wood River area, the Parker mine was closed down at the time of the drop in the price of metals. In 1927 an attempt was made to reopen the Parker (Blacksmith) tunnel on the producing level. The work was conducted by the original owners of the property. Due to improper timbering, a cave-in occurred and two local men lost their lives. After this unfortunate incident, no further work was done on the property. The mine remained closed then until recently reopened by Mr. Comer, Trustee of the Amicus Trust, predecessor of the Parker Mining Company, Inc.

The Trust cleaned up and retimbered the old Parker drift, driving new tunnel around the heavily caved portion, and intersected the old workings of the mine at that level. Some sampling of old stopes and pillars was done, for a distance of over 400 feet. All milling ores had been left in place by the early operators. At this level there is an undeveloped ore zone from 30 to 50 feet wide. We were unable to go down the winze more than 300 feet due to water, therefore could not continue our examination. We expect to complete dewatering of the winze this season, and complete a raise from the Montgomery level to the Parker, and complete our examination and sampling.

Our next work was the cleaning up, retimbering,etc., of the lower cross-cut footwall tunnel (Montgomery), which is 225 feet below the Parker tunnel. The main crosscut tunnel is 1250 feet long from the portal to the point where we are raising between the two levels. There is additional cross-cut work of approximately 1000 feet.

In the Montgomery tunnel, we found that no bedding planes had been explored; tops of beds had been cut; no effort evidently had been made to explore the beds between the two tunnel levels, although the formation warrants an exploration thereof. No attempt had been made to locate the downward extension of the old Parker ore shoot which produced the high grade ores which are shown in the list of early-day shipments.

16.(cont.) At this point we were compelled to temporarily cease operations due to lack of working capital.

(b) We refer you to Bulletin #90 of the Idaho State Bureau of Mines for information relative to the Triumph Mine, which is located West of the Parker Mine, and whose reputed production so far has been in excess of $60,000,000, and which is now operating on a large scale.

According to U.S.G.S.Bulletin #814, the Elkhorn mine, at the mount of Parker Gulch produced approximately $1,500,000 worth of ore in the early days.

(c) See excerpt from Bulletin #90 and U.S.Bull.814 attached, together with maps attached.

EXCERPTS

From

Pamphlet No. 90 October, 1950.

STATE OF IDAHO
C. A. Robins, Governor

IDAHO BUREAU OF MINES AND GEOLOGY

A. W. Fahrenwald, Director

Detailed Geology of Certain Areas in the Mineral Hill and Warm Springs Mining Districts

Blaine County, Idaho

By

A. L. ANDERSON, T. H. KIILSGAARD and V. C. FRYKLUND, Jr.

University of Idaho
Moscow, Idaho

Parker Mining Company, Inc.,
Box 938,
Ketchum, Idaho.

THE GEOLOGY AND ORE DEPOSITS OF THE TRIUMPH-PARKER MINE MINERAL BELT

by

Thor H. Kiilsgaard

Abstract

The Triumph-Parker mine mineral belt is underlain primarily by the Milligen formation of Mississippian age. This formation consists of argillites, limestones, and quartzites, and their various gradiational facies. Thrust remnants of Wood River formation (Pennsylvanian) cap some of the higher ridges and hilltops in the area. Along the western border, the Milligen formation is overlain by a series of volcanics, and interbedded sands, tuffs, and gravels. Intrusive dikes, chiefly andesitic, crop out throughout the district, and are particularly evident in some of the major shear zones.

A series of major shear zones, most of which strike west-northwest and dip at moderate angles to the Southwest, occur throughout the area. Many of these have been invaded by mineralizing solutions which have created ore bodies. The ore bodies are of two types: (1) fissure fillings; and (2) replacement bodies originating from replacement of susceptible limestones. The ores are of value primarily because of their lead, zinc, and silver content, although some gold and copper is also present.

The district has been intermittently productive since the eighteen eighties with the Triumph, North Star, Independence, and Parker mines being the chief contributors.

Although past mining operations have bottomed many of the ore shoots at comparatively shallow depths, there is reason to believe that ore should continue below the present lower mining levels.

Acknowledgments

Throughout most of the field season the writer was assisted by Mr. James Grant, graduate student of the University of Idaho School of Mines. The staff engineers of the Triumph Mining Company were most cooperative in contributing time and information, and in conducting the writer on tours through the Triumph property. The assistance of Mr. Heber Comer of the Parker Mining Company, Inc., is gratefully acknowledged....

Location and Accessibility

The Triumph-Parker mine mineral belt is in the Warm Springs Mining District, Blaine County, Idaho. It is roughly five miles east of U. S. Highway 93, between Hailey and Ketchum, and extends from the East Fork of the Wood River about three and one-half miles northwest to Parker Gulch (Fig. 1). The Triumph mine is located in the southeastern part of the area, twelve and one-half miles north of Hailey. A secondary road leads from the Triumph northwest to the Independence mine and then down Independence Gulch to its junction with Elkhorn Gulch. The road continues to the west and intersects U. S. Highway 93 one mile south of Ketchum. This road, or branches therefrom leads to most of the mining properties in the district....

Topography

The Triumph-Parker mine region is typical of the semi-arid and mountainous topography in that section of Idaho. Elevations range from 5800 to 8000 feet above sea level. The more prominent valleys have aggraded floors, some with distinct alluvial terraces. Many of the tributary valleys are occupied by intermittent streams and are to be viewed more as gulches than valleys. For the most part, they are walled by steep slopes which rise rapidly to narrow interstream ridges. The similarity in the southwest trend of some of the gulches suggests their control by a major fault pattern; however, such cannot be substantiated by field studies.

Geology

The sedimentary rocks of the region have been classified by U. S. G. S. Bulletin 814 as being members of the Milligen and Wood River formations, of Mississippian and Pennsylvanian age, respectively (1. pp. 25-34). There are also gravels and interbedded sandy tuffs of early Tertiary age, terrace gravels, and recent stream alluvium. Ignoous rocks include extensive andesitic flows and several varieties of dikes.

Carboniferous Sedimentary Rocks
Milligen Formation (Mississippian)

Distribution and Lithology. - The dark, fine-grained, argillaceous rocks that crop out in a broad northwest-trending belt across the eastern part of the area are members of the Milligen formation (Fig. 16). They take their name from the type section exposed along Milligen Creek, which empties into the East Fork of the Wood River about one-half mile east of the Triumph mine. This formation, which is the host rock for all the ore deposits in the Triumph-Parker mine area, has a regional northwest strike and southwest dip.

The absence of horizon markers, and the abundance of local crumpling and faulting makes it difficult to measure the formation thickness. A measured section in Parker Gulch showed a thickness greater than 7500 feet; however, this measurement may be in error, because of the possible repetition of beds. Certainly, the formation thickness is more than 5,500 feet.

The Milligen formation is composed mainly of black carbonaceous argillite, the product of mild regional metamorphism. Perhaps the most noticeable feature of the formation is the abundance of carbonaceous material, particularly the graphitic films on cleavage and fracture surfaces. Often, where mine workings have penetrated rocks rich in graphite, the mine dumps resemble piles of coal. Other distinguishable lithologic units present are quartzitic beds, limy members, and at the base, a series of brown sandy shales. Gradations from one rock type to another are present throughout the formation.

In certain areas metamorphism of the Milligen formation is more pronounced. Tactite, formed by contact metamorphism of limestone beds, is present near the mouth of Parker Gulch. On the western side of Independence hill, on Telephone Peak, and at other points, some limestone and limy argillites have been altered to a whitish lime-silicate rock composed of accicular tremolite crystals and other lime-silicate minerals. A spotted argillite member, the product of incipient metamorphism, crops out in a road-cut between Chicago Gulch and the Independence mine.

Although there are no dependable horizon markers in the Milligen formation, two limestone beds are recognized in the Triumph mine area and are thought to continue northwest beyond Parker Gulch. These limestones, while persistent in attitude, are locally concealed by surface mantle and elsewhere appear to lens out or to be faulted. Inasmuch as the intersection of mineralized

structures and limy members often controls the location of replaced ore bodies in the Triumph-Parker mine area, an attempt was made to map the limestones and to observe their condition where cut by faults. (Fig. 16).

The upper limestone crops out on the ridge about 400 feet west of the portal of the Lucky Coin mine. The bed is about 75 feet thick, strikes N. 64 deg. W. and dips 55 deg. S.W. To the northwest, across Independence Gulch, and to the southeast near Chicago Gulch, it passes beneath andesite. It is a dark blue, fine-grained rock that weathers light gray. The more weathered surfaces are covered with blades and sheathlike aggregates of amphibole crystals, probably tremolite. The member is penetrated by the Lucky Coin tunnel.

The Middle limestone member is best exposed in Independence Gulch northwest of the Lucky Coin portal. It is a rather massive blue-gray limestone with a rough appearance on the more weathered surfaces. It tends to be a bluff-maker, as evidenced in Chicago Gulch. In Keystone Gulch this member is 55 feet thick but appears thicker in Independence Gulch, owing to a dip slope. The Middle limestone may be traced to the ridge northwest of Parker Gulch where it is overturned and appears to lens out. To the southeast, it passes beneath hillwash from Independence hill. This limestone is believed to continue beneath the hillwash and andesite cap and reappear near the head of Triumph Gulch from where it continues on to the southeast across the Triumph holdings. It is described in the section on the Triumph mine as the Upper tremolite limestone.

The Lower limestone is separated from the Middle limestone by 150-200 feet of argillite. It crops out in the road cut between the Triumph and Independence mine, and at the mouth of Chicago Gulch where it strikes N. 50 deg. W. and dips 44 deg. S.W. About 150 feet above the Triumph-Independence road the limestone terminates abruptly against what may be a fault, but which cannot be confirmed because of heavy surface mantle. Further to the southeast, in Rose Gulch, a limestone with similar characteristics reappears. This limestone is believed to be the southeast continuation of the Lower limestone and is discussed in the section on the Triumph mine under the title of Lower tremolite limestone. The Lower limestone may be traced northwest with the dip gradually becoming steeper. On Elkhorn ridge the beds are vertical and in Parker Gulch the dip is overturned to the northeast. The Lower limestone is explored by the June Day workings, where an appreciable ore body is formed at its intersection with the June Day fault. The rock is described in the section on the June Day mine.

The Elkhorn limestones underlie the Lower limestone, separated by several hundred feet of argillite. They crop out across the ridge near the old Elkhorn diggings, but appear to lens out to the southeast on Baltimore ridge. To the northwest, in the Bald Eagle area, the Elkhorn limestones have been strongly affected by fault action.

These portions of Fig. 16, mapped as undifferentiated Milligen, are argillites, gradations of limy and siliceous argillites, and quartzites, with boundaries too indefinite for accurate field mapping. By far the most abundant of these rock types are the argillites, which, where relatively unmetamorphosed, grade imperceptably into shales. The attitude of the argillite members i often strongly contorted, particularly where they are interbedded between more competent members such as limestones and quartzites. Inasmuch as the argillites are easily deformed by stress they are usually the sites of strongly contorted areas and of the larger faults or shear zones, particularly those which have resulted from compressive stress.

Wood River Formation (Pennsylvanian)

The Wood River formation is described in U. S. G.S.Bulletin 814, p.34 as being Pennsylvanian in age. A large block of the formation occurs in the southern part of the Triumph-Parker mine area, but the described outcrops are thrust remnants that cap North Star Peak, Grouse Peak, and the ridge above the Baltimore mine. Wood River outliers are separated from the underlying Milligen formation by a low angle thrust fault that is inclined to the southwest. The thrust fault is characterized by a brecciated and recemented zone, which, owing to its resistance to erosion, often stands out in relief.

Lithology. The most recognizable lithologic units of the Wood River formation includes blue-gray sandy limestones, gray quartzites, and fine-grained siliceous limestones. In general, the formation members are lighter colored, more calcareous and more massive and bluff-forming than the underlying Milligen members; however, there are exceptions. No identifiable fossils were found in the formation, but Merriam (10), in describing the Wood River exposed on North Star Peak, points to fossils of an indeterminate character occurring in a medium to coarse-grained crinoidal limestone. These include productids, stony bryozoa, tabulate corals, and probable fusulinids.

There is no evidence of sulphide mineralization in any of the Wood River formation outliers in the Triumph-Parker area. On North Star Peak a blue-gray limestone is cut by numerous quartz and calcite stringers, but there appears to be no evidence of accompanying sulphide mineralization.

Tertiary Sedimentary Rocks

Gravels and Tuffs

A northwest-southeast trending belt of pebble gravels, sands, and interbedded tuffs occurs east of the mouth of Keystone Gulch. These sediments underlie the large expanse of andesitic lava that crops out south of Independence Gulch. (Fig. 16). To the northwest, beyond the mapped limit, the pebble gravels overlie a lava flow. The sediments are composed chiefly of sub-rounded lava and quartzite pebbles, although fragments of argillite, sandstone, and siliceous limestone are common. Pebbles range in size from three-eighths of an inch to two and one-half inches, in the long dimension. They are water sorted and locally interbedded with more sandy layers. Some light-brown, banded, tuffaceous deposits occur in the southern part of the area. The laminae vary in thickness, with an average of about one-tenth of an inch. The tuffs are probably products of volcanic explosions and the fact that they are now contaminated with more sandy aggregates is indicative of fluvial deposition

Inasmuch as these sediments are interbedded with lava flow, they are thought to be of the same age as those flows. This age is probably Miocene(?). (1, pp. 53-56).

Terrace Gravels and Alluvium

The Terrace gravels along the East Fork of the Wood River, and the alluvial debris along all of the streams are the products of relatively recent erosion. The alluvial matter is derived from all of the rocks in the vicinity and range in size from silt to boulders several feet in diameter. It is probable that some of the higher terraces, composed of boulders, coarse cobbles, and gravel, have originated from outwash of alpine glaciers present in the higher mountains during Pleistocene time.

Igneous Rocks

Volcanic Rocks

Andesitic Flows.- Andesitic flows cover much of the central portion of the area, especially south of Independence Gulch. The major part of these flows is hornblende andesite. Other varieties of lava were recognized but no attempt was made to differentiate them into mappable units. The andesitic rock has a dark greenish-gray color on fresh fractured surfaces, and plainly discernable plagioclase phenocrysts. The greenish color of the rock matrix results from an abundance of chlorite. The rock weathers to a rusty-brown color.

The flow capping Porphyry Peak, east of Independence Gulch, is a greenish-black, porphyritic augite andesite. Similar remnants cap ridges and peaks, at nearly the same altitudes, to the northwest and northeast.

The irregular eastern contact of the andesitic flow resting unconformably on the underlying Milligen formation, suggests that the lava was poured over an uneven surface, probably a lowland area or valley with its attending foothills. The long spurridge of Milligen that penetrates the lava adjacent to Elkhorn Gulch, indicates that the old land surface in that area, had a gentle dip to the southwest.

Intrusive Rocks

Dikes.- All intrusives noted in the area are described as dikes, although many are more like sills, lying almost in the bedding of the enclosing host rock. For the most part they are andesitic in composition, although a horn-blende-granite dike crops out on the Bald Eagle property, and basic lamporphyre dikes are common throughout. The dikes vary in thickness from a few inches to over 15 feet, and have short strike lengths, lensing out at the ends. The general strike is northwest and the dip is to the southwest at varying angles; there are several exceptions. They are chiefly confined to thin-bedded argillaceous members of the Milligen formation, although andesitic dikes crop out in the more competent Wood River rocks above the Baltimore mine. At the outcrop, the more acidic porphyritic dikes usually weather to shades of greenish gray in which the light gray outlines of the plagioclase phenocrysts are plainly visible. These plagioclase phenocrysts commonly measure up to three-eighths of an inch in length. The black, aphanitic, lamporphyre dikes are usually fresher and less affected by alteration.

Underground, light colored andesite porphyry dikes are common in the larger shear zones, although occasionally they wander off into the walls in relatively unfractured rocks, as in the Bonanza tunnel of the Baltimore mine. In the shear zones dikes are often crushed and hydrothermally altered to a whitish gouge-like material, much the same as some types of fault gouge. It is evident that during intrusion the magmatic material followed shear zones and was deformed by subsequent fault adjustment. In their crushed condition they were more easily altered by migrating solutions. Those dikes away from the shear zones are less altered.

Inasmuch as the dikes are common in shear zones they are often contiguous to ore bodies, and have even been found partially replaced by sulphides, as in the Bald Eagle mine and in parts of the Triumph mine. For this reason early mine operators commonly drifted on the dikes, thinking they were responsible for the mineralized deposits. The fact is, however, that in those exposures accessible to observation, the

dikes are pre-mineral, and are associated with ore bodies only in that both have favored the more permeable pre-dike and pre-mineral shear zones as sites of deposition. In this respect the dikes are comparable with those occurring in the Milligen formation in other areas (11, p. 12).

Structure

Folding

The Milligen formation is strongly folded and faulted in the Triumph-Parker mine area, but generally strikes to the northwest and dips to the southwest. At the mouth of Parker Gulch the dip has been overturned to the northeast. Throughout the area the formation appears to be the limb segment of a southwest-tilted homoclinal block. An interesting feature of the formation is that only the more competent rocks, limestones, quartzites, and some limy argillites are persistent in attitude. The pliant, incompetent argillites interbedded between have been intensely crumpled and distorted by differential movement, having yielded more readily to deformational stress. In places stress has deformed the argillites beyond their elastic limit, resulting in rupture. This action has emplaced most of the shear zones so common in the argillitic members, particularly those striking northwest and dipping southwest. Such shear zones commonly grade into regions of tight folding and crumpling, both on the strike and dip, with no apparent fracturing. A structure passing into such a crumpled area is difficult to follow in underground exploration, and, on occasion, has been lost completely.

The folded Wood River formation remnants, separated from the Milligen by a thrust fault, indicate that major folding was post-Pennsylvanian. It is probable that folding preceded thrust faulting, though both actions could have occurred somewhat simultaneously. In U.S.G.S. Bull.814, it is suggested that the major period of deformation be correlated with the Laramide orogeny which came near the end of the Mesozoic era.

Faulting

Thrust Faulting.- On North Star and Grouse Peaks, and on the ridge above the Baltimore mine, a major pre-mineral thrust fault separates the Wood River from the Milligen formation. On Baltimore ridge, the fault is marked by a brecciated and recemented zone which is at least 15 feet thick near the portal of the No. 2 tunnel. The fault plane is tilted about 9 deggees to the southwest. On North Star Peak, Merriam (10) describes the tilt as about 17 degrees to

the west. Breccia fragments comprising the zone range in size from microscopic to those an inch in length. They consist of black chert, quartzite, and siliceous limestone, embedded in a siliceous groundmass. The breccia-fragments show a distinct orientation with the long dimension roughly aligned in the plane of thrusting. The thrust zone of the above mentioned fault outliers is comparable in all respects with the one existing near the mouth of Decker Gulch, as described in Bull. 814, and is probably closely related, if not the same.

The tilt of the thrust plane suggests that movement was from southwest to northeast. Thrusting probably originated from compressive stresses from the southwest, active during late folding of the carboniferous sediments.

Reverse faulting.- Reverse faulting, though analogous to thrusting, is herein confined in description to shear zones of a somewhat steeper dip and less regional in extent. Those of chief importance include the Triumph, North Star, Independence, Baltimore, Amicus, Quaker City, and the Parker shear zones. Locally, minor wisps of drag folding in the walls adjacent to the shear zones are indicative of normal fault action; however, this is probably the result of gravitational adjustment at some period after formation of the fault. A major period ofoblique, reverse fault movement is suggested by larger drag folds, fault attitudes, and the almost universal existance of a well defined slickensided hanging wall, commonly with pronounced mullion structure. Hersey (1, p. 176) described the Independence lode as being on a reverse fault, and bases his conclusions on local stratigraphy. Merriam (10) advances the theory that the principal component of movement along the North Star and Triumph fissures has been of a reverse dip-slip nature. The major reverse faults, for the most part, strike in a west-northwest direction and dip moderately to the southwest, usually at angles less than the southwest dipping bedding of the host rock. They are pre-mineral faults that probably originated from the same compressive stress that gave rise to the above-mentioned thrust fault. They favor the incompetent argillites as host rocks and frequently merge into zones of tight and crumpled folding. Ore found within these zones of shearing is often broken and intermingled with fault gouge, although nowhere is there evidence of major post-mineral displacement within the plane of reverse faulting. It is believed that where post-mineral fracturing does occur, in the plane of shearing, that it is only a minor structural readjustment.

In addition to those reverse faults mentioned above there are others that are more properly described as flat faults. These are observed in many mine workings but not in enough detail for accurate description.

In the Triumph mine a set of pre-mineral flat faults are tilted in a westerly direction, which would suggest that they too are allied with a compressive stress acting from the southwest.

Normal faulting.- There appears to be several patterns of normal faults in the area, both pre- and post-mineral, some of which cannot be described from the data on hand.

A pattern of pre-mineral normal faults, striking northeast and dipping steeply southeast occurs in upper Parker Gulch. (Fig. 16). Maximum displacement measured in this fault pattern was about 350 feet, apparently with the hanging wall being displaced to the southwest. Whether this fault pattern had any effect upon the mineralized Parker and Amicus veins is not known.

The June Day fault, Fig. 21, strikes northwest and dips northeast. It appears to be a pre-mineral normal fault, but its displacement was not determined.

There are other faults, most of which strike in a northerly or northeasterly direction, about which little is known. They commonly offset lithologic members but are either concealed by debris or too indefinite to map. It is believed that pre-mineral normal faults are associated in some way with stress that emplaced the thrust and reverse faults, though such a postulation cannot be proved. One possibility is that they are resulted from lateral stress developed during thrusting movement. This could account for their near-normal strikes to the strikes of the major reverse faults.

Post-Mineral Normal faults.- Throughout the area there is a pattern of post-mineral normal faults striking to the north and northeast, and dipping northwest and north. Some of these faults offset mineralized structures. The best example of this type of faulting occurs in the western portion of the 700-level of the Triumph mine. Another example is the North fault as exposed in the Bonanza tunnel in the Baltimore mine. (Fig. 20).

There are undoubtedly many faults in the Triumph-Parker mine area that have not been recognized. The absence of reliable horizon markers and occurrence of heavy surface mantle interferes with interpretation, not only of folded structure, but of faulting as well. For this reason no attempt was made to map faults inferred by topography or by drainage patterns.

The existence of many of the inferred normal faults, postulated in Bull. 814, p. 70, is doubted. An example of such an inferred fault is the normal fault a few hundred feet west of the Lucky Coin portal, which reputedly separates the Milligen formation from andesitic flows.

Recent mining exploration has failed to confirm this fault. The Lucky Coin tunnel penetrates the Milligen-andesite contact, but shows no evidence of fault separation. Furthermore, at the tunnel contact, limestone fragments from the Milligen formation have a weathered appearance, similar to those now existing at the outcrop. Such an underground rock condition suggests an ancient land surface that was later covered with lava. The 700-level of the Triumph mine also penetrates andesitic flows with no indication of a fault contact.

ORE DEPOSITS

Classification of the Deposits

The ore deposits of the Triumph-Parker mineral belt fall into two groups: (1) mineralized fissures or shear zones, most of which strike in a west-northwest direction and dip to the southwest at moderate angles usually 30-35 degrees; (2) replacement deposits occurring at the intersection of mineralized shear zones and susceptible limestone members. Both types are found only in the Milligen formation.

Included in the first group are the deposits worked in the Triumph, North Star, Independence, Baltimore, Parker, Lucky G. I., and possibly Elkhorn mines. The second group includes the bedded siliceous and "complex" ores of the Triumph and North Star, and deposits in the June Day, and part of the Bald Eagle. In addition to these, part of the ore mined in the mineralized shear zones occurs as a replacement of sheared calcareous material, and not as fissure filling.

In general, ore throughout the district has similar characteristics. It is of value primarily because of its lead, zinc, and silver content, although there are exceptions. Fissure ore in the Triumph mine is higher in gold values than are the replacement deposits. The "complex" ore at the Triumph consists of galena and sphalerite in a pyritic gangue; there is little quartz or siderite present. The replaced ore at the June Day is largely gold, with little galena or sphalerite present.

Deposits in Shear Zones

The mineralized shear zones form the most common ore deposits in the district. For the most part, they are west-northwest striking, southwest dipping, pre-mineral reverse faults, some of which may be traced at the outcrop by vegetation markings. They favor the more incompetent argillitic members, probably because these rocks yielded more readily

to stress than the more competent quartzites and limestones. The shear zones range in thickness from a few inches to over 40 feet. In places they consist of a few gouge or graphitic-faced fractures, elsewhere they broaden into heavy shear zones composed of a multitude of close-spaced slickensided slips. Such zones occasionally grade into highly crumpled and fractured areas in which trace of the shear zone is difficult to follow, and may even be lost. Ore and gangue minerals are unequally distributed along the zones of shearing. They commonly occur as pods and lens-like aggregates or as streaks and stringers intermingled with fault gouge. Occasionally the ore is massive, but is more likely to be somewhat granulated, possibly owing to post-mineral movement in the fissure. Ore is often contiguous to igneous dikes in the shear zones, and, on occasion, has replaced dike material.

The shear zones are not simple planes but show sinuous surfaces and many irregularities. It is evident that during the time of mineralization the greater part of the individual shear zones, being heavy with gouge and sheared material, were too tightly compressed and impermable to permit entry of the mineralizing solutions. Only in the more open areas, or those irregular sections reopened by recurrent fault action, were there sites available for mineral deposition. Such fault action has accounted for a large part of the stringers and discontinuous lens-like ore shoots commonly found. In some calcareous sections of the shear zones mineralizing solutions replaced the limy substance thus forming deposits in part fissure filling and in part replacement.

Some ore shoots occur where shear zones truncate the bedding of thinly-laminated argillites. In these areas slippage along the shear zone apparently produced torsional stress which parted the adjacent bedding planes, thus creating sites for mineral deposition. In such areas ore appears to leave the fissure and curve into the bedding as wisps and irregular veinlets, extending only a few inches or feet. Such ore formed chiefly as void-fillings; there is little evidence of replacement of the more impermeable argillite. Ore shoots of this general type are mentioned by Merriam (10) as occurring in the Triumph mine. This type also occurs in the Amicus vein, in the Quaker City workings, and probably in the ore shoot near the face of the No. 6 level of the Baltimore mine and extending upward.

The principal gangue minerals of the shear-zone deposits are altered wall rock, quartz, calcite, and siderite. In some cases pyrite is an important gangue mineral. Important metallic minerals include galena, sphalerite, tetrahedrite, and ruby silver. The Triumph vein also con-

tains appreciable gold. Quartz and calcite appear to have been the first minerals deposited, followed by sphalerite, galena, and tetrahedrite in that order. Ruby silver ores have been among the latest deposited. Judging from the brecciated and cross-cutting relationships, ore deposition was not continuous but was recurrent. In some instances younger sulphides appear to have replaced older sulphides. Illustrative examples are lenses and pods of lead ore that thin out on the ends to zinc ore. Such lenses were probably originally filled with sphalerite, only to be brecciated by recurrent faulting and replaced by later galena.

There is no evidence of mineral zoning in the shear-zone deposits, nor can any ratio be fixed on the lead-zinc-silver values. At some spots the ore shoots may be high in zinc values, elsewhere they run more to lead and silver.

REPLACEMENT DEPOSITS

Replacement deposits occur in limestone members that have been intersected by certain shear zones. The shear zones have provided avenues of approach for invading mineralizers, which, upon encountering susceptible limy members, have diffused into the rocks, deposited their mineral load and carried the replaced limestone away in solution. This type of mineral deposition has locally built up large irregular deposits with ore values gradually fading away from the shear zone. An example is the stoped deposit in the June Day fault hanging wall on the No. 3 level of the June Day mine. Recognition of the replaced deposits is often aided by preservation of textures and structures of the original limestone. This is particularly true of the bedded siliceous deposits in the Triumph mine where host-rock bedding is plainly evident.

The bedded siliceous and "complex" ores of the Triumph and North Star mines form the largest of the known replacement deposits. In the past "complex" ore accounted for the bulk of Triumph production. One ore shoot of "complex" is described by Merriam (10) as: "....an area roughly 700 feet wide by 170 feet long with a thickness varying from six feet in the upper part to fifty feet below." .....

GENESIS OF THE ORE DEPOSITS

The origin of the ores in this area is somewhat debatable. Former writers (1, pp. 101 and 10) who have studied the district, note that major mineralization is related to the Idaho batholith and its satellites, and to orogenic disturbances that accompanied its emplacement, probably in late Jurassic or Cretaceous time. They point to croppings of granitic rocks in nearby areas and call attention to the partially metamorphosed condition of the Milligen formation, suggesting that it is underlain at no great depth by plutonics. On the other hand, there are those who recognize the orogenic disturbances that accompanied intrusion of the batholith but who believe the ores to be genetically related to younger period of Tertiary igneous activity (6). Perhaps a closer appraisal as to the origin of the ores may be found in a study of the andesitic dikes so common in mineralized shear zones. The altered and occasionally replaced condition of these dikes implies that many of them are pre-mineral in age. Furthermore, the fact that similar andesitic dikes are found cutting the granitic rocks west of Bellevue, presumably related to the Idaho batholith, implies a younger age for dike intrusion. Although no dike and volcanic flow contacts were found, U. S. G. S. Bull. 814, p. 61, mentions occurrences of volcanic flows covering truncated porphyritic dikes, which leads one to believe that the dikes and accompanying or subsequent mineralization are pre-volcanic in age. This would place their age as post-batholith and pre-volcanic, or early Tertiary.

Groundwork for mineralization apparently was laid during the orogenic disturbance that folded and faulted the carboniferous sediments, probably in Jurassic or Cretaceous time. The major fault patterns were formed at this time. At a later date these shear zones were invaded by igneous dikes, which offers evidence that these shear zones are of major extent and had access to magmatic masses below. Recurrent faulting in the shear zones followed, and may have been concurrent with dike invasion, as testified by the sheared and granulated condition of so many of the dikes. It is probable that mineralizing solutions, ascending from the underlying magmatic bodies, found a means of access along the shear zones during this later stage of fault adjustment. As these solutions ascended and found favorable sites for deposition, they deposited their mineral load as fissure filling and as replacement of certain susceptible limestones encountered both within and adjacent to the shear zones. Textures and mineral associations suggest that the zone of deposition was only moderately deep. Fault adjustment was probably continuous throughout the period of

mineralization, inasmuch as a static faulting condition would have become choked and impervious to mineral deposition. The brecciated and granulated condition of the earlier deposited minerals, i. e., quartz, pyrite, sphalerite, and galena, tends to confirm this observation. It is believed that the inter- and post-mineral fault adjustments in the major shear zones have been minor, and have not displaced the ore bodies to any great extent.

There is no appreciable oxidation zone in the Triumph-Parker mine area. Occasional traces of secondary lead ores are found in mine workings near the surface; however, there are no instances of ore deposits being enriched by descending secondary mineralization. Absence of an extensive oxidized zone suggests that erosion of the overlying rock has been rapid enough to keep abreast of oxidation.

CONCLUSIONS

It is believed that the ore bodies of the Triumph-Parker mine mineral belt should continue below the lowest depths yet reached by mining. The deposits are of a moderately deep seated character and would be expected to continue on to greater depths. Ore bodies should occur in the mineralized shear zones in those areas that were accessible to mineralizers during the period of sulphide mineralization. These depositional zones will be found only by continued exploration. There is no evidence of a major fault pattern which might cut off the deposits with depth.

It is suggested that in any future exploration of the mineralized shear zones, that they be closely followed. Too many past exploration programs have attempted to gain "backs" by driving lower crosscut workings. Often, in doing so, they have completely lost the sought-after structure. In disturbed and contorted rocks, such as the Milligen formation, projection of mineralized structure through several hundred feet of unexplored ground is hazardous and is to be avoided whenever possible. Furthermore, to adequately explore these shear zones demands mine workings within the zones of shearing. The scattered and pod-like occurrence of the ore bodies makes it easy to intersect a barren zone with a crosscut, which often tends to discourage further exploration of the sheared area. For the same reason, diamond drilling has often proved valueless not only in that core recovery is difficult in the crumpled Milligen formation, but in that intersected barren parts of the shear zone are uninformative.

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PARKER MINE

Location and Development

The Parker mine is 6.7 miles east of Ketchum, in Parker Gulch. It comprises 6 patented mining claims covering portions of Sect. 10 and 11, T. 4 N., R. 18 E., Boise Meridian. The property is held by the Amicus Trust, currently under the management of Mr. Heber Comer of Ketchum, Idaho.

There are four tunnels on the property that explore the Parker vein. These include the Western Reserve, Blacksmith, Montgomery, and the St. Louis, (Fig. 19.) Other mine workings include the lower Parker tunnel, and the Amicus and Gondolier. The latter two explore the Amicus vein. Several smaller diggings are scattered throughout the property. All workings are in the Milligen formation.

According to Bull. 814 the Parker deposit was discovered in 1883 by Eugene Gillenwater. During the next 15 years the property produced 1,552 tons of ore carrying 1,106,463 pounds of lead and 300,236 ounces of silver; the bulk of which was taken from one ore shoot about 75 feet long, extending from the Blacksmith level to some distance below. Bulletin 814 quotes the manager of the mine at the time of its production, who stated that the ore shoot was followed by a winze driven on the 30 degree dip of the vein for about 500 feet. At that point the vein terminated against a steeply dipping fault and no ore was found beyond.

At a later date the Montgomery tunnel was driven at a lower level to intersect the downward continuation of the Parker vein but this long tunnel and its accompanying crosscuts failed in their efforts.

The property has been worked intermittently since 1938 with the lower Parker tunnel, the Amicus tunnel, and the raise near the face of the Montgomery tunnel receiving most of the attention. It was idle during the summer of 1949.

GEOLOGY OF THE PARKER VEIN WORKINGS

The Parker vein crops out across a small ridge between the Blacksmith and Western Reserve tunnels. It strikes N. 72 deg. E. and dips 35 deg.SE. The vein has been explored by numerous pits which expose it as a rust-colored quartz-bearing shear zone whose average width approaches four feet. The vein wall rock is dark carbonaceous argillite. Although the vein is oxidized on the outcrop, the quartz when broken often presents fresh sulphides. An assay taken on the outcrop went .03 ounces in gold per ton, 17.5 ounces in silver perton, and 30 per cent lead (12). The vein may be traced up the hill beyond the Western Reserve tunnel but is soon lost beneath surface mantle.

The Western Reserve tunnel is caved 75 feet from the portal, and, in the area accessible, presents nothing but an 18-inch barren quartz vein.

During recent years the Blacksmith tunnel has been reopened for a distance of 350 feet; however, much of the tunnel is tightly lagged, making geologic observations difficult. The innermost 150 feet of tunnel follows the Parker vein, a pronounced shear zone striking almost east-west and dipping about 30 deg. S. A 30-inch quartz and calcite vein, containing some sulphides, occupies most of the shear zone at the caved face. The country rock adjacent to the footwall of the vein is a shiny, graphitic material with abundant slickensided surfaces. It has a greasy feel when touched and readily soils the hands. The graphitic substance is probably the result of metamorphism of bituminous material that was deposited with the argillitic country rock. According to an old mine map, 110 feet beyond the caved area a 500-foot winze was driven from the Blacksmith level. Several sub-levels and stopes led from the winze, all long since caved and now inaccessible.

The Montgomery tunnel, driven during the early 1900's, was reopened by Mr. Comer, who advanced a raise at the tunnel end to intersect the lower workings driven from the winze extending from the Blacksmith level. The tunnel and raise contain "bad air," and unless the air compressor is operating, forcing compressed air back to the raise, entry is hazardous and even then is restricted to the main tunnel. For this reason the tunnel was not mapped in detail, but a tracing of the

tunnel workings was obtained from a previous map. (Fig. 19). A small dike of andesitic composition is followed by the main tunnel, and by one short crosscut, and while it is reported to contain some gold values there is no evidence of lead-silver mineralization.

The St. Louis tunnel intersects and drifts on a flat dipping shear zone, which locally contains quartz lenses and stringers, and often good showings of sulphide ore. Where thickest, the vein dips from six to twelve degrees, elsewhere in areas of steeper dip the vein pinches. Near the winze the vein is four feet thick and contains abundant exposures of galena, sphalerite, tetrahedrite, and some ruby silver. Assays from this area run as high as 114 ounces of silver per ton, and 49.8 per cent lead. The ore is somewhat oxidized in the footwall areas of the shear zone. Crushed and dislocated quartz fragments suggest post-mineral shearing in the plane of the vein. Intricate drag folding of the thin-bedded argillite indicates the shear zone is a reverse fault, with perhaps minor normal fault adjustment.

Across the draw from the St. Louis portal, a 60-foot adit follows a major fault, striking N. 73 deg. E. and dipping 48 deg. SE. This, the St. Louis fault, displaces a 90-foot quartzite member 350 feet to the right, as the fault plane is faced. (Fig. 19). Although it cannot be proved, lithology of the faulted area suggests that the fault is normal.....

CONCLUSIONS

A study of the surface area, coupled with observations of vein structure in the Blacksmith and St. Louis tunnels, leads one to believe that the Parker and St. Louis veins, as shown in Fig. 19, are are the same structure. This conclusion is supported by cross sections drawn through the various workings. If such is the case, the Montgomery workings were of little value in the exploration of the Parker vein because they were too far in the footwall, a conclusion supported by their negative findings.

The Parker vein is said to be cut off by a steeply dipping strike fault somewhere near the bottom of the winze driven from the Blacksmith level. Inasmuch as this area is now caved, nothing could be learned of the nature of the fault. A projection of the St. Louis fault, as exposed in the short adit across the gulch from the

St. Louis tunnel, would intersect the Parker vein somewhere near the base of the winze and could possibly be responsible for termination of the vein in that area. Such a postulation would, of course, have to be investigated by further exploration.

RECOMMENDATIONS

The St. Louis tunnel area should be given priority in any future exploration program. The vein in this area is quite probably the continuation of the Parker structure, and, as such, represents an unexplored and promising part of that structure.

Continued advancement of the raise near the face of the Montgomery tunnel is likely to prove unsuccessful. The fact that it will intersect old mine workings comprised of several hundred feet of drifts, raises, and stopes, now flooded and caved, will not only be dangerous to mining operations but will likely be valueless because these areas have been previously explored.

From U. S. G. S. BULLETIN 814

PARKER MINE

The Parker mine is about 4 miles east of Ketchum in Elkhorn Gulch, in Sec. 10, T. 4 N. R. 18 E. The deposit is reported to have been discovered August 3, 1883, by Eugene Gillenwater, who found fragments of ore near a badger hole and eight days later made his first shipment, a carload which netted $1,003. The table below, compiled from records in the office of E. Daft, in Hailey, shows that 1,552 tons of ore carrying 1,106,463 pounds of lead and 300,236 ounces of silver was mined up to the end of 1898. More than half of this was treated at the smelter at Ketchum, and the remainder was shipped to smelters in Utah. There has been no production in recent years. The mine is reported to have yielded up to May 10, 1886, a total of $283,811.50 over and above freight and treatment charges, which averaged about $2 a ton. In depth the ore abutted against a fault gouge, and persistent efforts to find the vein beyond the fault have failed. The last of these attempts was made in 1911 and 1912, when a large amount of tunnel and crosscut work was done on lower levels.

(Attached is list of shipments above referred to).

The vein conforms nearly to the bedding of the inclosing Milligen argillite, which dips about 30 deg. SW. The rock is dominantly black calcareous argillite inclosing thin layers of bituminous limestone and has been intricately shattered. Along the fracture planes are films of graphite so pure that the hands are immediately soiled in touching unweathered material. ..... Igneous rocks occur only as dikes, although a short distance to the west there is a large area in which contact-metamorphic minerals are abundantly developed. A specimen of dike rock collected from the roadside in the vicinity of the lower tunnel is vogesite, one of the lamprophyres, and another specimen found as float on the hillside near the Blacksmith shop is a fine-grained graphite porphyry.

The vein material consists of galena, zinc blende, iron pyrite, tetrahedrite, and polybasite in a quartz-calcite-siderite gangue. .....

The ore shoot that afforded the mine's production is said by Jenney, who was manager when the property was in operation, to have been about 75 feet long and to wedge out to a seam of calcite on the ends. It was followed down on the 30 deg. dip of the vein for 500 feet and terminated against a steeply dipping strike fault. The fault gouge contained no drag ore, but the ore against it was smooth and striated, suggesting a slight postmineral movement along a premineral fault plane. No ore has been found beyond the fault. The ore averaged between 7 and 8 feet in width and was roughly banded. Next to the hanging wall was 8 inches of quartz and galena; then a band of massive galena from 3 to 4 feet thick, which carried about 200 ounces of silver to the ton; next was 2 feet 8 inches of galena, gray copper, and polybasite, which carried from 1,000 to 3,000 ounces of silver to the ton; and between this band and the footwall was an 8-inch band of white quartz and gray copper containing from 100 to 500 ounces of silver to the ton. Sphalerite occurred only in the border portions of the vein. At a distance of 3 to 15 feet from the main vein in the footwall a parallel vein of galena, narrow but exceptionally free from gangue minerals, was also worked.

Parker Mining Company, Inc.,
Box 938
Ketchum, Idaho

PARKER GROUP OF MINES

(These Figures Taken From Photostatic Copies of Shipments Made Through the Hailey Sampler, Records of Mr. Raft.)

Date	Dry Wt.	Tons	Silver Oz.pr.T.	Total Silver	Lead %	Total Lead
10/6/83	5280	2.64	319.37	843.14	30.5	1610
11/27/83	5596	2.798	324.62	908.29	46.5	2602
1/5/84	20385	10.293	135.50	1392.95	40.	10293
1/19/84	30608	15.804	153.12	2343.35	70.	21426
1/26/84	21900	10.950	146.55	1604.72	65.5	14392
1/26/84	23375	11.688	140.40	1641.35	42.5	9934
2/8/84	15757	7.879	148.74	1171.92	71.5	11266
2/8/84	8938	4.469	178.35	797.05	42.	3751
3/8/84	23727	11.864	174.26	2067.42	70.	16609
3/8/84	19859	9.930	153.69	1520.48	35.5	7050
3/12/84	2020	1.010	1108.32	1119.40	10.	202
3/12/84	22167	11.084	153.12	1697.18	70.70	15672
3/22/84	8171	4.086	170.33	694.97	37.5	3064
4/16/84	8032	4.016	408.36	1639.81	9.	723
5/17/84	34388	17.194	236.23	4071.74	68.	23384
5/21/84	28432	14.216	319.83	4546.70	68.	19334
5/24/84	23336	11.668	191.25	2236.51	30.	700
6/4/84	29937	14.969	193.94	2903.09	27.	8083
6/6/84	21052	10.526	174.24	1834.05	71.	14947
6/25/84	24823	12.412	148.46	1842.69	70.	17376
7/3/84	30288	15.144	131.57	1992.50	23.	6966
7/6/84	27265	13.633	190.	2590.27	70.	19086
7/31/84	27256	13.628	119.67	1630.86	34.2	9322
8/7/84	38146	19.073	170.	3242.41	73.12	2805
9/6/84	27500	13.75	297.90	4096.13	66.	18150
9/16/84	19455	9.728	189.60	1844.43	43.	8366
9/17/84	9138	4.569	221.2	1010.66	66.7	6095
9/20/84	6207	3.104	349.8	1085.78	58.	3600
9/22/84	23075	11.538	265.82	3067.03	23.2	5353
10/8/84	25143	12.572	164.	2068.09	61.2	15388
10/10/84	24531	12.266	190.	2330.54	58.	14228
10/17/84	40792	20.346	283.2	5776.15	47.5	19376
10/22/84	38966	19.483	449.2	8751.76	46.	17924
10/27/84	37007	18.584	422.9	7825.34	37.	13693
10/29/84	33471	16.736	271.5	4543.82	39.	13054
11/6/84	35674	17.837	250.7	4471.74	35.5	12664
11/12/84	39049	19.525	226.	4424.37	34.5	13472
11/23/84	41392	20.696	174.65	3614.56	40.	16557
12/7/84	40169	20.085	220.	4418.70	52.5	21089
12/15/84	40285	20.143	227.3	4578.50	49.5	19941
12/18/84	40367	20.184	191.70	3869.27	67.	27046
12/19/84	13678	6.839	188.5	1289.15	40.7	5567

Parker Mining Company, Inc.,
Box 938
Ketchum, Idaho

PARKER GROUP OF MINES

Page 2
Early Day Shipments

Date	Dry Weight	Tons	Silver Oz. pr.T.	Total Silver	Lead %	Lead Total
1/3/85	50345	25.173	262.50	6607.91	56.5	28445
1/7/85	50188	25.094	467.80	11638.60	54.	27102
1/9/85	30156	15.078	560.50	8451.22	47.	14173
1/16/85	30417	15.207	663.60	10091.37	40.	12165
1/31/85	30452	15.226	204.	3106.10	56.5	17205
1/31/85	31543	15.772	245.6	3873.60	55.5	17506
2/2/85	30378	15.189	374.	5680.67	48.7	14794
2/4/85	30582	15.291	433.50	6628.65	36.6	11193
2/23/85	30940	15.470	405.20	6269.99	47.5	13459
2/23/85	30057	15.027	282.30	4242.12	32.5	9767
2/25/85	30725	15.363	225.	3456.68	41.	12597
3/2/85	30275	15.118	257.80	3892.42	33.	9978
3/9/85	30360	15.180	175.60	2665.61	41.8	22690
3/18/85	29852	14.926	240.60	3591.20	38.5	11493
4/23/85	30859	15.430	243.	3749.49	43.5	13424
4/25/85	31571	15.786	192.40	3037.23	58.5	18469
4/30/85	31268	15.634	380.10	5942.48	46.	14383
5/6/85	31347	15.674	385.80	6047.03	46.	14420
5/30/85	31060	15.530	205.60	3192.97	51.	15903
7/1/85	30072	15.036	416.	6254.98	49.	14735
3/19/86	7270	3.635	32.7	118.86	7.	509
3/19/86	2991	1.496	120.5	180.27	59.	1765
3/23/86	6677	3.339	128.3	528.39	23.5	1569
3/23/86	2900	1.450	147.3	213.59	60.	1740
4/6/86	4671	2.336	94.8	221.45	36.5	1705
5/16/86	1991	.996	128.3	127.79	59.7	1189
5/16/86	21959	10.980	131.6	1444.97	39.	8564
5/16/86	1891	.946	913.1	863.79	60.	1135
6/16/86	8662	4.331	158.9	688.20	49.	4244
6/20/86	20911	10.456	100.9	1055.01	16.6	3471
8/17/86	5345	2.673	211.5	565.34		
8/17/86	1485	.743	78.1	58.03		
11/20/88	11644	5.822	190.7	1110.26	52.6	6125
12/14/88	11593	5.797	100.6	583.18	27.	3130
2/20/89		6.8	224.		37.	
6/4/89		4.5	297.8		52.	
6/4/89		2.2	167.1		32.5	

The foregoing is a copy of the record of shipments which we obtained from Mr. Laft's photostatic copies. Reliable sources have informed us that the foregoing is but a portion of shipments made but the figures for total production are not available to us.

From Personal Communication
By Willard P. Fuller, Jr.

Eureka, Utah
November 5, 1947

Mr. Heber Comer,
Ketchum,
Idaho.

Dear Mr. Comer:

I was pleased to receive your letter of October 20th, and since then have given considerable thought to how your questions might best be answered.....

In regard to the Parker Mine, there might be several ways of making your proposed connection. (1) Drift south as shown for approximately 75 feet, and raise to that level, about 115 feet vertically. (2) Drift 175 feet southerly as shown, and raise to the winze, about 85 feet vertically. (3) Or drift to point (3) and raise 115 feet vertically. (4) Drift to point (4) and raise 85 feet to the old level. I would favor method (2), as you would be in a better position to use the winze for working below that level, and as that level has a drift out to the east that might warrant more work if geological mapping should indicate that. .....

I would strongly recommend a transit survey, from the proposed drift, out the Montgomery tunnel, up to the Blacksmith tunnel, in and down the winze to the proposed connection. Such a survey, if properly done by a qualified mine surveyor, would certainly be worth the expense.

The proposed raise should be a two-compartment timbered raise, so that you can have a manway and a separate chute for handling much,

In the absence of geological maps of the Parker, it is difficult to recommend specific development. In general, two projects would seem to be most promising. First, to see if the vein continues eastward, toward the Hailey-Triumph area (either from the Blacksmith tunnel or a lower level), and second, to see what sort of a fault cut off the bottom of the ore, and if a solution of the fault displacement might reveal a continuation of the original ore shoot.

There is a possibility that some of the International field geologists might get up to Hailey next spring. If the Parker mine were opened upat that time to permit mapping of the more important of the old workings, it is possible that the company might be able to do this mapping for you. I would suggest that next spring you write to Mr. M. B. Kildale, Chief Geologist, International Smelting & Refining Co., stating the accessibility of the Parker workings, and ask if there is a chance that the company might do some geological mapping, to assist you in future development.

Sincerely yours,

(Signed) Willard P. Fuller, Jr."

Sept. 8, 1948

Dear Mr. Comer:

I was glad to receive your letter, and particularly interested to know that you were working in the raise, to connect the Montgomery tunnel with the upper Parker workings. As I remember, we thought that by raising 10 to 15 feet, and by fanning out longholes from the upper walls of the raise, a connection would be made. The best estimate possible from the available information indicated that the workings of Level No. 5 would lie from 30 to 40 feet above the track level of the Montgomery tunnel, but this is just a guess. According to the map, the No. 5 level would lie about 10 feet SW of the raise. It might be a good idea to run a sublevel at 30 feet above the Montgomery track level for 20 feet SW, then at a point 15 feet from the wall of the raise, drill long holes up, down, and at angles of, say plus and minus 60, on the NW and SE sides of the sublevel crosscut. .....

(Signed) W. P. Fuller, Jr."

THE EXPLORATION

20. Lead. Associated minerals are silver, gold, copper.

21. The applicant proposes to diamond drill the beds and the lime formation in the Parker mine from the Montgomery tunnel level, and attempt to locate the continuation of the old Parker ore shoot, as well as open up new shoots of ore, both high grade and milling.

It is believed that the diamond drilling program can be completed in six months.

After completion of the diamond drilling program, and the location of the ore shoots is determined, we would like to drive a lower tunnel, if it is deemed feasible, and develop the property from that level, and at that time work out a development and milling program.

22. Reference is made to Bulletin #90 and Bulletin #814, excerpts from which are attached to Question 16.

A geological map of the Montgomery tunnel is being prepared but it will not be completed in time to include in this application.

Map of underground workings is attached.

THE REQUIREMENTS AND COSTS

23.

(a)	1 Diamond Driller - 150 days @ $13 per day		$1950.00	
	1 D. D. Helper 150 " " $12 " "		1800.00	
	1 Compressor Man 150 " " $12 " "		1800.00	
				$5550.00
(b)	1 Supt.-Mgr. 6 mo. @ $400 per mo.			2400.00
(c)	None			
(d)	None			
(e)	1 Diamond Drill	$2500.00		
	1000' fiber air hose	500.00		
	1 Used Air Blower and 1200' air vent pipe	1200.00		
				4200.00
(f)	None			
(g)	Six months @ $800.00 per month			4800.00
(h)	Gas, oil, miscl. - six months			1500.00
(i)	None			
	Total			$18450.00

24. The foregoing estimate is based upon six months operations.

Estimated diamond drilling is 10,000 feet, an average of 1500 feet per month.

Estimated average monthly expenditure $3075.00.

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 324X

Date received 6-8-51

Participation

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 8 - 1951
LANDON F. STROBEL
Executive Secretary

Parker Mining Company, Inc.,
Box 938
Ketchum, Idaho

Name and address of applicant

Date May 28, 1951

FILL IN THIS BLOCK

Date of application May 28, 1951

Estimated cost $18,450.00

Mineral or metal Lead

Percentage of Government participation Fifty per cent.

Location of mine Sects. 10-11, Tp. 4 N.R.18 E. of B.M., in Warm Springs Creek Mineral Dist., Blaine County, Idaho; approx. 6 mi.E. of Ketchum, Idaho, in Parker Gulch.

Date of filing MF-100

DMA Docket Number, if available 324

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? Corporation

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

*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders. See Page 1 attached.

*4. Describe the mining and geological business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project. See Page 2 attached.

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

6. If owner, state what claims, liens, or encumbrances, if any, are against the property. See Page 2 attached.

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. See Page 3 attached.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement. See Page 3 attached.

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 Page 4 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. Parker Mine

*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 Page 4 attached

*13. State source and quantity of water available for operations and its sufficiency at all seasons. See Page 4 attached. State amount of power to be used, rate per hour or other cost, and source. See Page 4 attached.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. See Page 4 attached.

15. State in detail how the ore could be shipped and how and where milled. See Page 4 attached.

*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 Pages 5 & 6 attached.

(*b*) State briefly the known history and production of adjoining and neighboring properties. See Page 6 attached.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations. See Page 6 attached and Pages 7 to 36.

*17. Production:

(*a*) If mine is in production, furnish the following information: Mine is not in production.

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

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

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

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

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

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

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted? See Page 37 attached.

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. See page 37 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. See page 38 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 page 39 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. See Page 39 attached.

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.

Parker Mining Company, Inc.,
(Name of company)

By [signature]
(Signature of authorized official)

May 28, 1951
(Date)

Manager
(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

THE APPLICANT

3.	Howard W. Hill	Carlsbad, California	President and Director
	G. W. Burgess	Twin Falls, Idaho	Vice-President and Director
	Frank Brown	Twin Falls, Idaho	Secretary-Treasurer and Director

Five Largest Stockholders

Heber Comer	Ketchum, Idaho	Manager
Howard W. Hill	Carlsbad, California	
O. S. Burgess	Twin Falls, Idaho	
G. W. Burgess	Twin Falls, Idaho	
Henry Rees	Twin Falls, Idaho	

Note: The annual meeting of the corporation will be held on May 28, 1951, at which time new directors will be elected. The proposed new directors are Mr. Heber Comer, Dr. Howard W. Hill and Mr. E. D. Adkins, whose address is Richfield, Idaho.

4. In 1947 the Amicus Trust, through Heber Comer, Trustee, purchased the Parker Mine. The Trust held title to the property until August, 1949. In 1949 the Amicus Trust was converted into a corporation, namely, Parker Mining Company, Inc., an Idaho corporation, and title to the Parker Mine was conveyed by the Trust to the corporation.

Practically all of the recent work on the Parker Mine was done by the Amicus Trust during its ownership. This work consisted of cleaning up old workings, dewatering, retimbering, drifting, raising, etc. These operations were under the supervision and management of Mr. Comer, and future operation of the mine will be under his supervision and management. Mr. Comer has had more than fifteen years experience in mining, in tunnel work, and the various phases of development.

The Amicus Trust financed its mine operations under the management of Mr. Comer; selling costs were held to a minimum; funds raised were used for organization costs, purchasing the property, purchase of equipment, and actual mine development, the operations being conducted on the most economical basis possible under existing conditions. Neither the Amicus Trust nor the Parker Mining Company, Inc., has permitted promotional selling of its stock. The controlling interest in the corporation is held by Mr. Comer.

6. There are no encumbrances or liens on the Parker mining property.

9.

Balance Sheet
Close of Business July 31, 1950

Assets:

First Security Bank, Hailey, Idaho	$ 42.18	
Special Deposit-State Ins. Fund	100.00	
Organization, Incorporation Costs	766.82	
Assays	101.38	
Geological & Engineering	992.99	
Lease & Properties	5284.91	
Road Improvement	481.50	
Equipment Purchased	8240.42	
Mine Development Cost	36484.11	
Total		$52494.31

Liabilities:

Federal Withholding Tax Accrued		533.70	
Federal Old Age Benefits Accrued		114.00	
Accounts Payable, Salary Heber Comer		7265.60	
" " Cash advances "		453.07	
Realized from sale of Units & Stock	$45170.00		
Less Commissions paid & allowed	1041.96.		
		44128.04	
			$52494.31

Note: No appraisal of property owned by the corporation has been made.

Note: The foregoing is the last balance sheet made. Since July 31, 1950, some funds have been raised but the property has been inactive. At present we are raising funds through the sale of stock to continue operations, up to $10,000.

Applying rental on equipment in accordance with Section 9 of Mineral Order 5 we will have sufficient funds to cover our one-half of the cost of operating under the proposed loan.

THE PROPERTY

10. (a) The Parker Mine, consisting of 6 patented claims, namely:

(b) The Parker, Montgomery, St. Louis, Western Reserve, Una and Uva patented mining claims, situated in Sections 10 and 11, Tp. 4 N. R. 18 E. of Boise Meridian, in Blaine County, Idaho. The property is in the Warm Springs Creek Mineral District, in Parker Gulch.

12. The Parker Mine is located approximately 6½ miles East of Ketchum, Idaho, which is the railroad shipping point; it is 4.3 miles North of U.S.Highway #93, on good road, with about a 5% grade. The road may easily be kept accessible throughout the year.

13. Two large springs which flow throughout the year will give ample water for all mining and/or milling purposes; in addition there is water from the mine tunnels.

14. Two 105 Schramm Compressors
1 Tugger Hoist
1 Sinker Pump
1 Pressure Tank
1 Receiving Tank
1 Dressing Block
1250 feet of pipe
1500 feet of track
Small Tools
1 1½ ton truck

15. The ore can be trucked to railroad shipping point, Ketchum, Idaho; from there shipped to the smelters at Salt Lake City, Utah, a distance of about 300 miles. The truck hall from mine to railroad would be about 6½ miles.

16. The early development of the Parker Mine is referred to in excerpt from U.S.G.S.Bulletin 814, and the recent report made by the Idaho State Bureau of Mines, Bulletin #90, attached to this application.

Along with other mines in the Wood River area, the Parker mine was closed down at the time of the drop in the price of metals. In 1927 an attempt was made to reopen the Parker (Blacksmith) tunnel on the producing level. The work was conducted by the original owners of the property. Due to improper timbering, a cave-in occurred and two local men lost their lives. After this unfortunate incident, no further work was done on the property. The mine remained closed then until recently reopened by Mr. Comer, Trustee of the Amicus Trust, predecessor of the Parker Mining Company, Inc.

The Trust cleaned up and retimbered the old Parker drift, driving new tunnel around the heavily caved portion, and intersected the old workings of the mine at that level. Some sampling of old stopes and pillars was done, for a distance of over 400 feet. All milling ores had been left in place by the early operators. At this level there is an undeveloped ore zone from 30 to 50 feet wide. We were unable to go down the winze more than 300 feet due to water, therefore could not continue our examination. We expect to complete dewatering of the winze this season, and complete a raise from the Montgomery level to the Parker, and complete our examination and sampling.

Our next work was the cleaning up, retimbering,etc., of the lower cross-cut footwall tunnel (Montgomery), which is 225 feet below the Parker tunnel. The main crosscut tunnel is 1250 feet long from the portal to the point where we are raising between the two levels. There is additional cross-cut work of approximately 1000 feet.

In the Montgomery tunnel, we found that no bedding planes had been explored; tops of beds had been cut; no effort evidently had been made to explore the beds between the two tunnel levels, although the formation warrants an exploration thereof. No attempt had been made to locate the downward extension of the old Parker ore shoot which produced the high grade ores which are shown in the list of early-day shipments.

16.(cont.) At this point we were compelled to temporarily cease operations due to lack of working capital.

(b) We refer you to Bulletin #90 of the Idaho State Bureau of Mines for information relative to the Triumph Mine, which is located West of the Parker Mine, and whose reputed production so far has been in excess of $60,000,000, and which is now operating on a large scale.

According to U.S.G.S.Bulletin #814, the Elkhorn mine, at the mount of Parker Gulch produced approximately $1,500,000 worth of ore in the early days.

(c) See excerpt from Bulletin #90 and U.S.Bull.814 attached, together with maps attached.

EXCERPTS

From

Pamphlet No. 90 October, 1950.

STATE OF IDAHO
C. A. Robins, Governor

IDAHO BUREAU OF MINES AND GEOLOGY

A. W. Fahrenwald, Director

Detailed Geology of Certain Areas in the Mineral Hill and Warm Springs Mining Districts

Blaine County, Idaho

By

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THE GEOLOGY AND ORE DEPOSITS OF THE TRIUMPH-PARKER MINE MINERAL BELT

by

Thor H. Kiilsgaard

Abstract

The Triumph-Parker mine mineral belt is underlain primarily by the Milligen formation of Mississippian age. This formation consists of argillites, limestones, and quartzites, and their various gradiational facies. Thrust remnants of Wood River formation (Pennsylvanian) cap some of the higher ridges and hilltops in the area. Along the western border, the Milligen formation is overlain by a series of volcanics, and interbedded sands, tuffs, and gravels. Intrusive dikes, chiefly andesitic, crop out throughout the district, and are particularly evident in some of the major shear zones.

A series of major shear zones, most of which strike west-northwest and dip at moderate angles to the Southwest, occur throughout the area. Many of these have been invaded by mineralizing solutions which have created ore bodies. The ore bodies are of two types: (1) fissure fillings; and (2) replacement bodies originating from replacement of susceptible limestones. The ores are of value primarily because of their lead, zinc, and silver content, although some gold and copper is also present.

The district has been intermittently productive since the eighteen eighties with the Triumph, North Star, Independence, and Parker mines being the chief contributors.

Although past mining operations have bottomed many of the ore shoots at comparatively shallow depths, there is reason to believe that ore should continue below the present lower mining levels.

Acknowledgments

Throughout most of the field season the writer was assisted by Mr. James Grant, graduate student of the University of Idaho School of Mines. The staff engineers of the Triumph Mining Company were most cooperative in contributing time and information, and in conducting the writer on tours through the Triumph property. The assistance of Mr. Heber Comer of the Parker Mining Company, Inc., is gratefully acknowledged....

Location and Accessibility

The Triumph-Parker mine mineral belt is in the Warm Springs Mining District, Blaine County, Idaho. It is roughly five miles east of U. S. Highway 93, between Hailey and Ketchum, and extends from the East Fork of the Wood River about three and one-half miles northwest to Parker Gulch (Fig. 1). The Triumph mine is located in the southeastern part of the area, twelve and one-half miles north of Hailey. A secondary road leads from the Triumph northwest to the Independence mine and then down Independence Gulch to its junction with Elkhorn Gulch. The road continues to the west and intersects U. S. Highway 93 one mile south of Ketchum. This road, or branches therefrom leads to most of the mining properties in the district....

Topography

The Triumph-Parker mine region is typical of the semi-arid and mountainous topography in that section of Idaho. Elevations range from 5800 to 8000 feet above sea level. The more prominent valleys have aggraded floors, some with distinct alluvial terraces. Many of the tributary valleys are occupied by intermittent streams and are to be viewed more as gulches than valleys. For the most part, they are walled by steep slopes which rise rapidly to narrow interstream ridges. The similarity in the southwest trend of some of the gulches suggests their control by a major fault pattern; however, such cannot be substantiated by field studies.

Geology

The sedimentary rocks of the region have been classified by U. S. G. S. Bulletin 814 as being members of the Milligen and Wood River formations, of Mississippian and Pennsylvanian age, respectively (1. pp. 25-34). There are also gravels and interbedded sandy tuffs of early Tertiary age, terrace gravels, and recent stream alluvium. Igneous rocks include extensive andesitic flows and several varieties of dikes.

Carboniferous Sedimentary Rocks
Milligen Formation (Mississippian)

Distribution and Lithology. - The dark, fine-grained, argillaceous rocks that crop out in a broad northwest-trending belt across the eastern part of the area are members of the Milligen formation (Fig. 16). They take their name from the type section exposed along Milligen Creek, which empties into the East Fork of the Wood River about one-half mile east of the Triumph mine. This formation, which is the host rock for all the ore deposits in the Triumph-Parker mine area, has a regional northwest strike and southwest dip.

The absence of horizon markers, and the abundance of local crumpling and faulting makes it difficult to measure the formation thickness. A measured section in Parker Gulch showed a thickness greater than 7500 feet; however, this measurement may be in error, because of the possible repetition of beds. Certainly, the formation thickness is more than 5,500 feet.

The Milligen formation is composed mainly of black carbonaceous argillite, the product of mild regional metamorphism. Perhaps the most noticeable feature of the formation is the abundance of carbonaceous material, particularly the graphitic films on cleavage and fracture surfaces. Often, where mine workings have penetrated rocks rich in graphite, the mine dumps resemble piles of coal. Other distinguishable lithologic units present are quartzitic beds, limy members, and at the base, a series of brown sandy shales. Gradations from one rock type to another are present throughout the formation.

In certain areas metamorphism of the Milligen formation is more pronounced. Tactite, formed by contact metamorphism of limestone beds, is present near the mouth of Parker Gulch. On the western side of Independence hill, on Telephone Peak, and at other points, some limestone and limy argillites have been altered to a whitish lime-silicate rock composed of accicular tremolite crystals and other lime-silicate minerals. A spotted argillite member, the product of incipient metamorphism, crops out in a road-cut between Chicago Gulch and the Independence mine.

Although there are no dependable horizon markers in the Milligen formation, two limestone beds are recognized in the Triumph mine area and are thought to continue northwest beyond Parker Gulch. These limestones, while persistent in attitude, are locally concealed by surface mantle and elsewhere appear to lens out or to be faulted. Inasmuch as the intersection of mineralized

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structures and limy members often controls the location of replaced ore bodies in the Triumph-Parker mine area, an attempt was made to map the limestones and to observe their condition where cut by faults. (Fig. 16).

The upper limestone crops out on the ridge about 400 feet west of the portal of the Lucky Coin mine. The bed is about 75 feet thick, strikes N. 64 deg. W. and dips 55 deg. S.W. To the northwest, across Independence Gulch, and to the southeast near Chicago Gulch, it passes beneath andesite. It is a dark blue, fine-grained rock that weathers light gray. The more weathered surfaces are covered with blades and sheathlike aggregates of amphibole crystals, probably tremolite. The member is penetrated by the Lucky Coin tunnel.

The Middle limestone member is best exposed in Independence Gulch northwest of the Lucky Coin portal. It is a rather massive blue-gray limestone with a rough appearance on the more weathered surfaces. It tends to be a bluff-maker, as evidenced in Chicago Gulch. In Keystone Gulch this member is 55 feet thick but appears thicker in Independence Gulch, owing to a dip slope. The Middle limestone may be traced to the ridge northwest of Parker Gulch where it is overturned and appears to lens out. To the southeast, it passes beneath hillwash from Independence hill. This limestone is believed to continue beneath the hillwash and andesite cap and reappear near the head of Triumph Gulch from where it continues on to the southeast across the Triumph holdings. It is described in the section on the Triumph mine as the Upper tremolite limestone.

The Lower limestone is separated from the Middle limestone by 150-200 feet of argillite. It crops out in the road cut between the Triumph and Independence mine, and at the mouth of Chicago Gulch where it strikes N. 50 deg. W. and dips 44 deg. S.W. About 150 feet above the Triumph-Independence road the limestone terminates abruptly against what may be a fault, but which cannot be confirmed because of heavy surface mantle. Further to the southeast, in Rose Gulch, a limestone with similar characteristics reappears. This limestone is believed to be the southeast continuation of the Lower limestone and is discussed in the section on the Triumph mine under the title of Lower tremolite limestone. The Lower limestone may be traced northwest with the dip gradually becoming steeper. On Elkhorn ridge the beds are vertical and in Parker Gulch the dip is overturned to the northeast. The Lower limestone is explored by the June Day workings, where an appreciable ore body is formed at its intersection with the June Day fault. The rock is described in the section on the June Day mine.

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The Elkhorn limestones underlie the Lower limestone, separated by several hundred feet of argillite. They crop out across the ridge near the old Elkhorn diggings, but appear to lens out to the southeast on Baltimore ridge. To the northwest, in the Bald Eagle area, the Elkhorn limestones have been strongly affected by fault action.

These portions of Fig. 16, mapped as undifferentiated Milligen, are argillites, gradations of limy and siliceous argillites, and quartzites, with boundaries too indefinite for accurate field mapping. By far the most abundant of these rock types are the argillites, which, where relatively unmetamorphosed, grade imperceptably into shales. The attitude of the argillite members i often strongly contorted, particularly where they are interbedded between more competent members such as limestones and quartzites. Inasmuch as the argillites are easily deformed by stress they are usually the sites of strongly contorted areas and of the larger faults or shear zones, particularly those which have resulted from compressive stress.

Wood River Formation (Pennsylvanian)

The Wood River formation is described in U. S. G.S.Bulletin 814, p.34 as being Pennsylvanian in age. A large block of the formation occurs in the southern part of the Triumph-Parker mine area, but the described outcrops are thrust remnants that cap North Star Peak, Grouse Peak, and the ridge above the Baltimore mine. Wood River outliers are separated from the underlying Milligen formation by a low angle thrust fault that is inclined to the southwest. The thrust fault is characterized by a brecciated and recemented zone, which, owing to its resistance to erosion, often stands out in relief.

Lithology. The most recognizable lithologic units of the Wood River formation includes blue-gray sandy limestones, gray quartzites, and fine-grained siliceous limestones. In general, the formation members are lighter colored, more calcareous and more massive and bluff-forming than the underlying Milligen members; however, there are exceptions. No identifiable fossils were found in the formation, but Merriam (10), in describing the Wood River exposed on North Star Peak, points to fossils of an indeterminate character occurring in a medium to coarse-grained crinoidal limestone. These include productids, stony bryozoa, tabulate corals, and probable fusulinids.

There is no evidence of sulphide mineralization in any of the Wood River formation outliers in the Triumph-Parker area. On North Star Peak a blue-gray limestone is cut by numerous quartz and calcite stringers, but there appears to be no evidence of accompanying sulphide mineralization.

Tertiary Sedimentary Rocks

Gravels and Tuffs

A northwest-southeast trending belt of pebble gravels, sands, and interbedded tuffs occurs east of the mouth of Keystone Gulch. These sediments underlie the large expanse of andesitic lava that crops out south of Independence Gulch. (Fig. 16). To the northwest, beyond the mapped limit, the pebble gravels overlie a lava flow. The sediments are composed chiefly of sub-rounded lava and quartzite pebbles, although fragments of argillite, sandstone, and siliceous limestone are common. Pebbles range in size from three-eighths of an inch to two and one-half inches, in the long dimension. They are water sorted and locally interbedded with more sandy layers. Some light-brown, banded, tuffaceous deposits occur in the southern part of the area. The laminae vary in thickness, with an average of about one-tenth of an inch. The tuffs are probably products of volcanic explosions and the fact that they are now contaminated with more sandy aggregates is indicative of fluvial deposition

Inasmuch as these sediments are interbedded with lava flow, they are thought to be of the same age as those flows. This age is probably Miocene(?). (1, pp. 53-56).

Terrace Gravels and Alluvium

The Terrace gravels along the East Fork of the Wood River, and the alluvial debris along all of the streams are the products of relatively recent erosion. The alluvial matter is derived from all of the rocks in the vicinity and range in size from silt to boulders several feet in diameter. It is probable that some of the higher terraces, composed of boulders, coarse cobbles, and gravel, have originated from outwash of alpine glaciers present in the higher mountains during Pleistocene time.

Igneous Rocks

Volcanic Rocks

Andesitic Flows.- Andesitic flows cover much of the central portion of the area, especially south of Independence Gulch. The major part of these flows is hornblende andesite. Other varieties of lava were recognized but no attempt was made to differentiate them into mappable units. The andesitic rock has a dark greenish-gray color on fresh fractured surfaces, and plainly discernable plagioclase phenocrysts. The greenish color of the rock matrix results from an abundance of chlorite. The rock weathers to a rusty-brown color.

The flow capping Porphyry Peak, east of Independence Gulch, is a greenish-black, porphyritic augite andesite. Similar remnants cap ridges and peaks, at nearly the same altitudes, to the northwest and northeast.

The irregular eastern contact of the andesitic flow resting unconformably on the underlying Milligen formation, suggests that the lava was poured over an uneven surface, probably a lowland area or valley with its attending foothills. The long spurridge of Milligen that penetrates the lava adjacent to Elkhorn Gulch, indicates that the old land surface in that area, had a gentle dip to the southwest.

Intrusive Rocks

Dikes.- All intrusives noted in the area are described as dikes, although many are more like sills, lying almost in the bedding of the enclosing host rock. For the most part they are andesitic in composition, although a horn-blende-granite dike crops out on the Bald Eagle property, and basic lamporphyre dikes are common throughout. The dikes vary in thickness from a few inches to over 15 feet, and have short strike lengths, lensing out at the ends. The general strike is northwest and the dip is to the southwest at varying angles; there are several exceptions. They are chiefly confined to thin-bedded argillaceous members of the Milligen formation, although andesitic dikes crop out in the more competent Wood River rocks above the Baltimore mine. At the outcrop, the more acidic porphyritic dikes usually weather to shades of greenish gray in which the light gray outlines of the plagioclase phenocrysts are plainly visible. These plagioclase phenocrysts commonly measure up to three-eighths of an inch in length. The black, aphanitic, lamporphyre dikes are usually fresher and less affected by alteration.

Underground, light colored andesite porphyry dikes are common in the larger shear zones, although occasionally they wander off into the walls in relatively unfractured rocks, as in the Bonanza tunnel of the Baltimore mine. In the shear zones dikes are often crushed and hydrothermally altered to a whitish gouge-like material, much the same as some types of fault gouge. It is evident that during intrusion the magmatic material followed shear zones and was deformed by subsequent fault adjustment. In their crushed condition they were more easily altered by migrating solutions. Those dikes away from the shear zones are less altered.

Inasmuch as the dikes are common in shear zones they are often contiguous to ore bodies, and have even been found partially replaced by sulphides, as in the Bald Eagle mine and in parts of the Triumph mine. For this reason early mine operators commonly drifted on the dikes, thinking they were responsible for the mineralized deposits. The fact is, however, that in those exposures accessible to observation, the

dikes are pre-mineral, and are associated with ore bodies only in that both have favored the more permeable pre-dike and pre-mineral shear zones as sites of deposition. In this respect the dikes are comparable with those occurring in the Milligen formation in other areas (11, p. 12).

Structure

Folding

The Milligen formation is strongly folded and faulted in the Triumph-Parker mine area, but generally strikes to the northwest and dips to the southwest. At the mouth of Parker Gulch the dip has been overturned to the northeast. Throughout the area the formation appears to be the limb segment of a southwest-tilted homoclinal block. An interesting feature of the formation is that only the more competent rocks, limestones, quartzites, and some limy argillites are persistent in attitude. The pliant, incompetent argillites interbedded between have been intensely crumpled and distorted by differential movement, having yielded more readily to deformational stress. In places stress has deformed the argillites beyond their elastic limit, resulting in rupture. This action has emplaced most of the shear zones so common in the argillitic members, particularly those striking northwest and dipping southwest. Such shear zones commonly grade into regions of tight folding and crumpling, both on the strike and dip, with no apparent fracturing. A structure passing into such a crumpled area is difficult to follow in underground exploration, and, on occasion, has been lost completely.

The folded Wood River formation remnants, separated from the Milligen by a thrust fault, indicate that major folding was post-Pennsylvanian. It is probable that folding preceded thrust faulting, though both actions could have occurred somewhat simultaneously. In U.S.G.S. Bull.814, it is suggested that the major period of deformation be correlated with the Laramide orogeny which came near the end of the Mesozoic era.

Faulting

Thrust Faulting.- On North Star and Grouse Peaks, and on the ridge above the Baltimore mine, a major pre-mineral thrust fault separates the Wood River from the Milligen formation. On Baltimore ridge, the fault is marked by a brecciated and recemented zone which is at least 15 feet thick near the portal of the No. 2 tunnel. The fault plane is tilted about 9 deggees to the southwest. On North Star Peak, Merriam (10) describes the tilt as about 17 degrees to

the west. Breccia fragments comprising the zone range in size from microscopic to those an inch in length. They consist of black chert, quartzite, and siliceous limestone, embedded in a siliceous groundmass. The breccia-fragments show a distinct orientation with the long dimension roughly aligned in the plane of thrusting. The thrust zone of the above mentioned fault outliers is comparable in all respects with the one existing near the mouth of Decker Gulch, as described in Bull. 814, and is probably closely related, if not the same.

The tilt of the thrust plane suggests that movement was from southwest to northeast. Thrusting probably originated from compressive stresses from the southwest, active during late folding of the carboniferous sediments.

Reverse faulting.- Reverse faulting, though analogous to thrusting, is herein confined in description to shear zones of a somewhat steeper dip and less regional in extent. Those of chief importance include the Triumph, North Star, Independence, Baltimore, Amicus, Quaker City, and the Parker shear zones. Locally, minor wisps of drag folding in the walls adjacent to the shear zones are indicative of normal fault action; however, this is probably the result of gravitational adjustment at some period after formation of the fault. A major period ofoblique, reverse fault movement is suggested by larger drag folds, fault attitudes, and the almost universal existance of a well defined slickensided hanging wall, commonly with pronounced mullion structure. Hersey (1, p. 176) described the Independence lode as being on a reverse fault, and bases his conclusions on local stratigraphy. Merriam (10) advances the theory that the principal component of movement along the North Star and Triumph fissures has been of a reverse dip-slip nature. The major reverse faults, for the most part, strike in a west-northwest direction and dip moderately to the southwest, usually at angles less than the southwest dipping bedding of the host rock. They are pre-mineral faults that probably originated from the same compressive stress that gave rise to the above-mentioned thrust fault. They favor the incompetent argillites as host rocks and frequently merge into zones of tight and crumpled folding. Ore found within these zones of shearing is often broken and intermingled with fault gouge, although nowhere is there evidence of major post-mineral displacement within the plane of reverse faulting. It is believed that where post-mineral fracturing does occur, in the plane of shearing, that it is only a minor structural readjustment.

In addition to those reverse faults mentioned above there are others that are more properly described as flat faults. These are observed in many mine workings but not in enough detail for accurate description.

In the Triumph mine a set of pre-mineral flat faults are tilted in a westerly direction, which would suggest that they too are allied with a compressive stress acting from the southwest.

Normal faulting.- There appears to be several patterns of normal faults in the area, both pre- and post-mineral, some of which cannot be described from the data on hand.

A pattern of pre-mineral normal faults, striking northeast and dipping steeply southeast occurs in upper Parker Gulch. (Fig. 16). Maximum displacement measured in this fault pattern was about 350 feet, apparently with the hanging wall being displaced to the southwest. Whether this fault pattern had any effect upon the mineralized Parker and Amicus veins is not known.

The June Day fault, Fig. 21, strikes northwest and dips northeast. It appears to be a pre-mineral normal fault, but its displacement was not determined.

There are other faults, most of which strike in a northerly or northeasterly direction, about which little is known. They commonly offset lithologic members but are either concealed by debris or too indefinite to map. It is believed that pre-mineral normal faults are associated in some way with stress that emplaced the thrust and reverse faults, though such a postulation cannot be proved. One possibility is that they are resulted from lateral stress developed during thrusting movement. This could account for their near-normal strikes to the strikes of the major reverse faults.

Post-Mineral Normal faults.- Throughout the area there is a pattern of post-mineral normal faults striking to the north and northeast, and dipping northwest and north. Some of these faults offset mineralized structures. The best example of this type of faulting occurs in the western portion of the 700-level of the Triumph mine. Another example is the North fault as exposed in the Bonanza tunnel in the Baltimore mine. (Fig. 20).

There are undoubtedly many faults in the Triumph-Parker mine area that have not been recognized. The absence of reliable horizon markers and occurrence of heavy surface mantle interferes with interpretation, not only of folded structure, but of faulting as well. For this reason no attempt was made to map faults inferred by topography or by drainage patterns.

The existence of many of the inferred normal faults, postulated in Bull. 814, p. 70, is doubted. An example of such an inferred fault is the normal fault a few hundred feet west of the Lucky Coin portal, which reputedly separates the Milligen formation from andesitic flows.

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Recent mining exploration has failed to confirm this fault. The Lucky Coin tunnel penetrates the Milligen-andesite contact, but shows no evidence of fault separation. Furthermore, at the tunnel contact, limestone fragments from the Milligen formation have a weathered appearance, similar to those now existing at the outcrop. Such an underground rock condition suggests an ancient land surface that was later covered with lava. The 700-level of the Triumph mine also penetrates andesitic flows with no indication of a fault contact.

ORE DEPOSITS

Classification of the Deposits

The ore deposits of the Triumph-Parker mineral belt fall into two groups: (1) mineralized fissures or shear zones, most of which strike in a west-northwest direction and dip to the southwest at moderate angles usually 30-35 degrees; (2) replacement deposits occurring at the intersection of mineralized shear zones and susceptible limestone members. Both types are found only in the Milligen formation.

Included in the first group are the deposits worked in the Triumph, North Star, Independence, Baltimore, Parker, Lucky G. I., and possibly Elkhorn mines. The second group includes the bedded siliceous and "complex" ores of the Triumph and North Star, and deposits in the June Day, and part of the Bald Eagle. In addition to these, part of the ore mined in the mineralized shear zones occurs as a replacement of sheared calcareous material, and not as fissure filling.

In general, ore throughout the district has similar characteristics. It is of value primarily because of its lead, zinc, and silver content, although there are exceptions. Fissure ore in the Triumph mine is higher in gold values than are the replacement deposits. The "complex" ore at the Triumph consists of galena and sphalerite in a pyritic gangue; there is little quartz or siderite present. The replaced ore at the June Day is largely gold, with little galena or sphalerite present.

Deposits in Shear Zones

The mineralized shear zones form the most common ore deposits in the district. For the most part, they are west-northwest striking, southwest dipping, pre-mineral reverse faults, some of which may be traced at the outcrop by vegetation markings. They favor the more incompetent argillitic members, probably because these rocks yielded more readily

to stress than the more competent quartzites and limestones. The shear zones range in thickness from a few inches to over 40 feet. In places they consist of a few gouge or graphitic-faced fractures, elsewhere they broaden into heavy shear zones composed of a multitude of close-spaced slickensided slips. Such zones occasionally grade into highly crumpled and fractured areas in which trace of the shear zone is difficult to follow, and may even be lost. Ore and gangue minerals are unequally distributed along the zones of shearing. They commonly occur as pods and lens-like aggregates or as streaks and stringers intermingled with fault gouge. Occasionally the ore is massive, but is more likely to be somewhat granulated, possibly owing to post-mineral movement in the fissure. Ore is often contiguous to igneous dikes in the shear zones, and, on occasion, has replaced dike material.

The shear zones are not simple planes but show sinuous surfaces and many irregularities. It is evident that during the time of mineralization the greater part of the individual shear zones, being heavy with gouge and sheared material, were too tightly compressed and impermable to permit entry of the mineralizing solutions. Only in the more open areas, or those irregular sections reopened by recurrent fault action, were there sites available for mineral deposition. Such fault action has accounted for a large part of the stringers and discontinuous lens-like ore shoots commonly found. In some calcareous sections of the shear zones mineralizing solutions replaced the limy substance thus forming deposits in part fissure filling and in part replacement.

Some ore shoots occur where shear zones truncate the bedding of thinly-laminated argillites. In these areas slippage along the shear zone apparently produced torsional stress which parted the adjacent bedding planes, thus creating sites for mineral deposition. In such areas ore appears to leave the fissure and curve into the bedding as wisps and irregular veinlets, extending only a few inches or feet. Such ore formed chiefly as void-fillings; there is little evidence of replacement of the more impermeable argillite. Ore shoots of this general type are mentioned by Merriam (10) as occurring in the Triumph mine. This type also occurs in the Amicus vein, in the Quaker City workings, and probably in the ore shoot near the face of the No. 6 level of the Baltimore mine and extending upward.

The principal gangue minerals of the shear-zone deposits are altered wall rock, quartz, calcite, and siderite. In some cases pyrite is an important gangue mineral. Important metallic minerals include galena, sphalerite, tetrahedrite, and ruby silver. The Triumph vein also con-

tains appreciable gold. Quartz and calcite appear to have been the first minerals deposited, followed by sphalerite, galena, and tetrahedrite in that order. Ruby silver ores have been among the latest deposited. Judging from the brecciated and cross-cutting relationships, ore deposition was not continuous but was recurrent. In some instances younger sulphides appear to have replaced older sulphides. Illustrative examples are lenses and pods of lead ore that thin out on the ends to zinc ore. Such lenses were probably originally filled with sphalerite, only to be brecciated by recurrent faulting and replaced by later galena.

There is no evidence of mineral zoning in the shear-zone deposits, nor can any ratio be fixed on the lead-zinc-silver values. At some spots the ore shoots may be high in zinc values, elsewhere they run more to lead and silver.

REPLACEMENT DEPOSITS

Replacement deposits occur in limestone members that have been intersected by certain shear zones. The shear zones have provided avenues of approach for invading mineralizers, which, upon encountering susceptible limy members, have diffused into the rocks, deposited their mineral load and carried the replaced limestone away in solution. This type of mineral deposition has locally built up large irregular deposits with ore values gradually fading away from the shear zone. An example is the stoped deposit in the June Day fault hanging wall on the No. 3 level of the June Day mine. Recognition of the replaced deposits is often aided by preservation of textures and structures of the original limestone. This is particularly true of the bedded siliceous deposits in the Triumph mine where host-rock bedding is plainly evident.

The bedded siliceous and "complex" ores of the Triumph and North Star mines form the largest of the known replacement deposits. In the past "complex" ore accounted for the bulk of Triumph production. One ore shoot of "complex" is described by Merriam (10) as: "....an area roughly 700 feet wide by 170 feet long with a thickness varying from six feet in the upper part to fifty feet below." .....

GENESIS OF THE ORE DEPOSITS

The origin of the ores in this area is somewhat debatable. Former writers (1, pp. 101 and 10) who have studied the district, note that major mineralization is related to the Idaho batholith and its satellites, and to orogenic disturbances that accompanied its emplacement, probably in late Jurassic or Cretaceous time. They point to croppings of granitic rocks in nearby areas and call attention to the partially metamorphosed condition of the Milligen formation, suggesting that it is underlain at no great depth by plutonics. On the other hand, there are those who recognize the orogenic disturbances that accompanied intrusion of the batholith but who believe the ores to be genetically related to younger period of Tertiary igneous activity (6). Perhaps a closer appraisal as to the origin of the ores may be found in a study of the andesitic dikes so common in mineralized shear zones. The altered and occasionally replaced condition of these dikes implies that many of them are pre-mineral in age. Furthermore, the fact that similar andesitic dikes are found cutting the granitic rocks west of Bellevue, presumably related to the Idaho batholith, implies a younger age for dike intrusion. Although no dike and volcanic flow contacts were found, U. S. G. S. Bull. 814, p. 61, mentions occurrences of volcanic flows covering truncated porphyritic dikes, which leads one to believe that the dikes and accompanying or subsequent mineralization are pre-volcanic in age. This would place their age as post-batholith and pre-volcanic, or early Tertiary.

Groundwork for mineralization apparently was laid during the orogenic disturbance that folded and faulted the carboniferous sediments, probably in Jurassic or Cretaceous time. The major fault patterns were formed at this time. At a later date these shear zones were invaded by igneous dikes, which offers evidence that these shear zones are of major extent and had access to magmatic masses below. Recurrent faulting in the shear zones followed, and may have been concurrent with dike invasion, as testified by the sheared and granulated condition of so many of the dikes. It is probable that mineralizing solutions, ascending from the underlying magmatic bodies, found a means of access along the shear zones during this later stage of fault adjustment. As these solutions ascended and found favorable sites for deposition, they deposited their mineral load as fissure filling and as replacement of certain susceptible limestones encountered both within and adjacent to the shear zones. Textures and mineral associations suggest that the zone of deposition was only moderately deep. Fault adjustment was probably continuous throughout the period of

mineralization, inasmuch as a static faulting condition would have become choked and impervious to mineral deposition. The brecciated and granulated condition of the earlier deposited minerals, i. e., quartz, pyrite, sphalerite, and galena, tends to confirm this observation. It is believed that the inter- and post-mineral fault adjustments in the major shear zones have been minor, and have not displaced the ore bodies to any great extent.

There is no appreciable oxidation zone in the Triumph-Parker mine area. Occasional traces of secondary lead ores are found in mine workings near the surface; however, there are no instances of ore deposits being enriched by descending secondary mineralization. Absence of an extensive oxidized zone suggests that erosion of the overlying rock has been rapid enough to keep abreast of oxidation.

CONCLUSIONS

It is believed that the ore bodies of the Triumph-Parker mine mineral belt should continue below the lowest depths yet reached by mining. The deposits are of a moderately deep seated character and would be expected to continue on to greater depths. Ore bodies should occur in the mineralized shear zones in those areas that were accessible to mineralizers during the period of sulphide mineralization. These depositional zones will be found only by continued exploration. There is no evidence of a major fault pattern which might cut off the deposits with depth.

It is suggested that in any future exploration of the mineralized shear zones, that they be closely followed. Too many past exploration programs have attempted to gain "backs" by driving lower crosscut workings. Often, in doing so, they have completely lost the sought-after structure. In disturbed and contorted rocks, such as the Milligen formation, projection of mineralized structure through several hundred feet of unexplored ground is hazardous and is to be avoided whenever possible. Furthermore, to adequately explore these shear zones demands mine workings within the zones of shearing. The scattered and pod-like occurrence of the ore bodies makes it easy to intersect a barren zone with a crosscut, which often tends to discourage further exploration of the sheared area. For the same reason, diamond drilling has often proved valueless not only in that core recovery is difficult in the crumpled Milligen formation, but in that intersected barren parts of the shear zone are uninformative.

Parker Mining Company, Inc.,
Box 938
Ketchum, Idaho

PARKER MINE

Location and Development

The Parker mine is 6.7 miles east of Ketchum, in Parker Gulch. It comprises 6 patented mining claims covering portions of Sect. 10 and 11, T. 4 N., R. 18 E., Boise Meridian. The property is held by the Amicus Trust, currently under the management of Mr. Heber Comer of Ketchum, Idaho.

There are four tunnels on the property that explore the Parker vein. These include the Western Reserve, Blacksmith, Montgomery, and the St. Louis, (Fig. 19.) Other mine workings include the lower Parker tunnel, and the Amicus and Gondolier. The latter two explore the Amicus vein. Several smaller diggings are scattered throughout the property. All workings are in the Milligen formation.

According to Bull. 814 the Parker deposit was discovered in 1883 by Eugene Gillenwater. During the next 15 years the property produced 1,552 tons of ore carrying 1,106,463 pounds of lead and 300,236 ounces of silver; the bulk of which was taken from one ore shoot about 75 feet long, extending from the Blacksmith level to some distance below. Bulletin 814 quotes the manager of the mine at the time of its production, who stated that the ore shoot was followed by a winze driven on the 30 degree dip of the vein for about 500 feet. At that point the vein terminated against a steeply dipping fault and no ore was found beyond.

At a later date the Montgomery tunnel was driven at a lower level to intersect the downward continuation of the Parker vein but this long tunnel and its accompanying crosscuts failed in their efforts.

The property has been worked intermittently since 1938 with the lower Parker tunnel, the Amicus tunnel, and the raise near the face of the Montgomery tunnel receiving most of the attention. It was idle during the summer of 1949.

GEOLOGY OF THE PARKER VEIN WORKINGS

The Parker vein crops out across a small ridge between the Blacksmith and Western Reserve tunnels. It strikes N. 72 deg. E. and dips 35 deg.SE. The vein has been explored by numerous pits which expose it as a rust-colored quartz-bearing shear zone whose average width approaches four feet. The vein wall rock is dark carbonaceous argillite. Although the vein is oxidized on the outcrop, the quartz when broken often presents fresh sulphides. An assay taken on the outcrop went .03 ounces in gold per ton, 17.5 ounces in silver perton, and 30 per cent lead (12). The vein may be traced up the hill beyond the Western Reserve tunnel but is soon lost beneath surface mantle.

The Western Reserve tunnel is caved 75 feet from the portal, and, in the area accessible, presents nothing but an 18-inch barren quartz vein.

During recent years the Blacksmith tunnel has been reopened for a distance of 350 feet; however, much of the tunnel is tightly lagged, making geologic observations difficult. The innermost 150 feet of tunnel follows the Parker vein, a pronounced shear zone striking almost east-west and dipping about 30 deg. S. A 30-inch quartz and calcite vein, containing some sulphides, occupies most of the shear zone at the caved face. The country rock adjacent to the footwall of the vein is a shiny, graphitic material with abundant slickensided surfaces. It has a greasy feel when touched and readily soils the hands. The graphitic substance is probably the result of metamorphism of bituminous material that was deposited with the argillitic country rock. According to an old mine map, 110 feet beyond the caved area a 500-foot winze was driven from the Blacksmith level. Several sub-levels and stopes led from the winze, all long since caved and now inaccessible.

The Montgomery tunnel, driven during the early 1900's, was reopened by Mr. Comer, who advanced a raise at the tunnel end to intersect the lower workings driven from the winze extending from the Blacksmith level. The tunnel and raise contain "bad air," and unless the air compressor is operating, forcing compressed air back to the raise, entry is hazardous and even then is restricted to the main tunnel. For this reason the tunnel was not mapped in detail, but a tracing of the

tunnel workings was obtained from a previous map. (Fig. 19). A small dike of andesitic composition is followed by the main tunnel, and by one short crosscut, and while it is reported to contain some gold values there is no evidence of lead-silver mineralization.

The St. Louis tunnel intersects and drifts on a flat dipping shear zone, which locally contains quartz lenses and stringers, and often good showings of sulphide ore. Where thickest, the vein dips from six to twelve degrees, elsewhere in areas of steeper dip the vein pinches. Near the winze the vein is four feet thick and contains abundant exposures of galena, sphalerite, tetrahedrite, and some ruby silver. Assays from this area run as high as 114 ounces of silver per ton, and 49.8 per cent lead. The ore is somewhat oxidized in the footwall areas of the shear zone. Crushed and dislocated quartz fragments suggest post-mineral shearing in the plane of the vein. Intricate drag folding of the thin-bedded argillite indicates the shear zone is a reverse fault, with perhaps minor normal fault adjustment.

Across the draw from the St. Louis portal, a 60-foot adit follows a major fault, striking N. 73 deg. E. and dipping 48 deg. SE. This, the St. Louis fault, displaces a 90-foot quartzite member 350 feet to the right, as the fault plane is faced. (Fig. 19). Although it cannot be proved, lithology of the faulted area suggests that the fault is normal.....

CONCLUSIONS

A study of the surface area, coupled with observations of vein structure in the Blacksmith and St. Louis tunnels, leads one to believe that the Parker and St. Louis veins, as shown in Fig. 19, are are the same structure. This conclusion is supported by cross sections drawn through the various workings. If such is the case, the Montgomery workings were of little value in the exploration of the Parker vein because they were too far in the footwall, a conclusion supported by their negative findings.

The Parker vein is said to be cut off by a steeply dipping strike fault somewhere near the bottom of the winze driven from the Blacksmith level. Inasmuch as this area is now caved, nothing could be learned of the nature of the fault. A projection of the St. Louis fault, as exposed in the short adit across the gulch from the

St. Louis tunnel, would intersect the Parker vein somewhere near the base of the winze and could possibly be responsible for termination of the vein in that area. Such a postulation would, of course, have to be investigated by further exploration.

RECOMMENDATIONS

The St. Louis tunnel area should be given priority in any future exploration program. The vein in this area is quite probably the continuation of the Parker structure, and, as such, represents an unexplored and promising part of that structure.

Continued advancement of the raise near the face of the Montgomery tunnel is likely to prove unsuccessful. The fact that it will intersect old mine workings comprised of several hundred feet of drifts, raises, and stopes, now flooded and caved, will not only be dangerous to mining operations but will likely be valueless because these areas have been previously explored.

From U. S. G. S. BULLETIN 814

PARKER MINE

The Parker mine is about 4 miles east of Ketchum in Elkhorn Gulch, in Sec. 10, T. 4 N. R. 18 E. The deposit is reported to have been discovered August 3, 1883, by Eugene Gillenwater, who found fragments of ore near a badger hole and eight days later made his first shipment, a carload which netted $1,003. The table below, compiled from records in the office of E. Daft, in Hailey, shows that 1,552 tons of ore carrying 1,106,463 pounds of lead and 300,236 ounces of silver was mined up to the end of 1898. More than half of this was treated at the smelter at Ketchum, and the remainder was shipped to smelters in Utah. There has been no production in recent years. The mine is reported to have yielded up to May 10, 1886, a total of $283,811.50 over and above freight and treatment charges, which averaged about $2 a ton. In depth the ore abutted against a fault gouge, and persistent efforts to find the vein beyond the fault have failed. The last of these attempts was made in 1911 and 1912, when a large amount of tunnel and crosscut work was done on lower levels.

(Attached is list of shipments above referred to).

The vein conforms nearly to the bedding of the inclosing Milligen argillite, which dips about 30 deg. SW. The rock is dominantly black calcareous argillite inclosing thin layers of bituminous limestone and has been intricately shattered. Along the fracture planes are films of graphite so pure that the hands are immediately soiled in touching unweathered material. ..... Igneous rocks occur only as dikes, although a short distance to the west there is a large area in which contact-metamorphic minerals are abundantly developed. A specimen of dike rock collected from the roadside in the vicinity of the lower tunnel is vogesite, one of the lamprophyres, and another specimen found as float on the hillside near the Blacksmith shop is a fine-grained graphite porphyry.

The vein material consists of galena, zinc blende, iron pyrite, tetrahedrite, and polybasite in a quartz-calcite-siderite gangue. .....

The ore shoot that afforded the mine's production is said by Jenney, who was manager when the property was in operation, to have been about 75 feet long and to wedge out to a seam of calcite on the ends. It was followed down on the 30 deg. dip of the vein for 500 feet and terminated against a steeply dipping strike fault. The fault gouge contained no drag ore, but the ore against it was smooth and striated, suggesting a slight postmineral movement along a premineral fault plane. No ore has been found beyond the fault. The ore averaged between 7 and 8 feet in width and was roughly banded. Next to the hanging wall was 8 inches of quartz and galena; then a band of massive galena from 3 to 4 feet thick, which carried about 200 ounces of silver to the ton; next was 2 feet 8 inches of galena, gray copper, and polybasite, which carried from 1,000 to 3,000 ounces of silver to the ton; and between this band and the footwall was an 8-inch band of white quartz and gray copper containing from 100 to 500 ounces of silver to the ton. Sphalerite occurred only in the border portions of the vein. At a distance of 3 to 15 feet from the main vein in the footwall a parallel vein of galena, narrow but exceptionally free from gangue minerals, was also worked.

Parker Mining Company, Inc.,
Box 938
Ketchum, Idaho

PARKER GROUP OF MINES

(These Figures Taken From Photostatic Copies of Shipments Made Through the Hailey Sampler, Records of Mr. Daft.)

Date	Dry Wt.	Tons	Silver Oz.pr.T.	Total Silver	Lead %	Total Lead
10/6/83	5280	2.64	319.37	843.14	30.5	1610
11/27/83	5596	2.798	324.62	908.29	46.5	2602
1/5/84	20385	10.293	135.50	1392.95	40.	10293
1/19/84	30608	15.804	153.12	2343.35	70.	21426
1/26/84	21900	10.950	146.55	1604.72	65.5	14392
1/26/84	23375	11.688	140.40	1641.35	42.5	9934
2/8/84	15757	7.879	148.74	1171.92	71.5	11266
2/8/84	8938	4.469	178.35	797.05	42.	3751
3/8/84	23727	11.864	174.26	2067.42	70.	16609
3/8/84	19859	9.930	153.69	1520.48	35.5	7050
3/12/84	2020	1.010	1108.32	1119.40	10.	202
3/12/84	22167	11.084	153.12	1697.18	70.70	15672
3/22/84	8171	4.086	170.33	694.97	37.5	3064
4/16/84	8032	4.016	408.36	1639.81	9.	723
5/17/84	34388	17.194	236.23	4071.74	68.	23384
5/21/84	28432	14.216	319.83	4546.70	68.	19334
5/24/84	23336	11.668	191.25	2236.51	30.	700
6/4/84	29937	14.969	193.94	2903.09	27.	8083
6/6/84	21052	10.526	174.24	1834.05	71.	14947
6/25/84	24823	12.412	148.46	1842.69	70.	17376
7/3/84	30288	15.144	131.57	1992.50	23.	6966
7/6/84	27265	13.633	190.	2590.27	70.	19086
7/31/84	27256	13.628	119.67	1630.86	34.2	9322
8/7/84	38146	19.073	170.	3242.41	73.12	2805
9/6/84	27500	13.75	297.90	4096.13	66.	18150
9/16/84	19455	9.728	189.60	1844.43	43.	8366
9/17/84	9138	4.569	221.2	1010.66	66.7	6095
9/20/84	6207	3.104	349.8	1085.78	58.	3600
9/22/84	23075	11.538	265.82	3067.03	23.2	5353
10/8/84	25143	12.572	164.	2068.09	61.2	15388
10/10/84	24531	12.266	190.	2330.54	58.	14228
10/17/84	40792	20.346	283.2	5776.15	47.5	19376
10/22/84	38966	19.483	449.2	8751.76	46.	17924
10/27/84	37007	18.584	422.9	7825.34	37.	13693
10/29/84	33471	16.736	271.5	4543.82	39.	13054
11/6/84	35674	17.837	250.7	4471.74	35.5	12664
11/12/84	39049	19.525	226.	4424.37	34.5	13472
11/23/84	41392	20.696	174.65	3614.56	40.	16557
12/7/84	40169	20.085	220.	4418.70	52.5	21089
12/15/84	40285	20.143	227.3	4578.50	49.5	19941
12/18/84	40367	20.184	191.70	3869.27	67.	27046
12/19/84	13678	6.839	188.5	1289.15	40.7	5567

Parker Mining Company, Inc.,
Box 938
Ketchum, Idaho

PARKER GROUP OF MINES

Page 2
Early Day Shipments

Date	Dry Weight	Tons	Silver Oz. pr.T.	Total Silver	Lead %	Lead Total
1/3/85	50345	25.173	262.50	6607.91	56.5	28445
1/7/85	50188	25.094	467.80	11638.60	54.	27102
1/9/85	30156	15.078	560.50	8451.22	47.	14173
1/16/85	30417	15.207	663.60	10091.37	40.	12165
1/31/85	30452	15.226	204.	3106.10	56.5	17205
1/31/85	31543	15.772	245.6	3873.60	55.5	17506
2/2/85	30378	15.189	374.	5680.67	48.7	14794
2/4/85	30582	15.291	433.50	6628.65	36.6	11193
2/23/85	30940	15.470	405.20	6269.99	47.5	13459
2/23/85	30057	15.027	282.30	4242.12	32.5	9767
2/25/85	30725	15.363	225.	3456.68	41.	12597
3/2/85	30275	15.118	257.80	3892.42	33.	9978
3/9/85	30360	15.180	175.60	2665.61	41.8	22690
3/18/85	29852	14.926	240.60	3591.20	38.5	11493
4/23/85	30859	15.430	243.	3749.49	43.5	13424
4/25/85	31571	15.786	192.40	3037.23	58.5	18469
4/30/85	31268	15.634	380.10	5942.48	46.	14383
5/6/85	31347	15.674	385.80	6047.03	46.	14420
5/30/85	31060	15.530	205.60	3192.97	51.	15903
7/1/85	30072	15.036	416.	6254.98	49.	14735
3/19/86	7270	3.635	32.7	118.86	7.	509
3/19/86	2991	1.496	120.5	180.27	59.	1765
3/23/86	6677	3.339	128.3	528.39	23.5	1569
3/23/86	2900	1.450	147.3	213.59	60.	1740
4/6/86	4671	2.336	94.8	221.45	36.5	1705
5/16/86	1991	.996	128.3	127.79	59.7	1189
5/16/86	21959	10.980	131.6	1444.97	39.	8564
5/16/86	1891	.946	913.1	863.79	60.	1135
6/16/86	8662	4.331	158.9	688.20	49.	4244
6/20/86	20911	10.456	100.9	1055.01	16.6	3471
8/17/86	5345	2.673	211.5	565.34		
8/17/86	1485	.743	78.1	58.03		
11/20/88	11644	5.822	190.7	1110.26	52.6	6125
12/14/88	11593	5.797	100.6	583.18	27.	3130
2/20/89		6.8	224.		37.	
6/4/89		4.5	297.8		52.	
6/4/89		2.2	167.1		32.5	

The foregoing is a copy of the record of shipments which we obtained from Mr. Daft's photostatic copies. Reliable sources have informed us that the foregoing is but a portion of shipments made but the figures for total production are not available to us.

From Personal Communication
By Willard P. Fuller, Jr.

Eureka, Utah
November 5, 1947

Mr. Heber Comer,
Ketchum,
Idaho.

Dear Mr. Comer:

I was pleased to receive your letter of October 20th, and since then have given considerable thought to how your questions might best be answered.....

In regard to the Parker Mine, there might be several ways of making your proposed connection. (1) Drift south as shown for approximately 75 feet, and raise to that level, about 115 feet vertically. (2) Drift 175 feet southerly as shown, and raise to the winze, about 85 feet vertically. (3) Or drift to point (3) and raise 115 feet vertically. (4) Drift to point (4) and raise 85 feet to the old level. I would favor method (2), as you would be in a better position to use the winze for working below that level, and as that level has a drift out to the east that might warrant more work if geological mapping should indicate that. .....

I would strongly recommend a transit survey, from the proposed drift, out the Montgomery tunnel, up to the Blacksmith tunnel, in and down the winze to the proposed connection. Such a survey, if properly done by a qualified mine surveyor, would certainly be worth the expense.

The proposed raise should be a two-compartment timbered raise, so that you can have a manway and a separate chute for handling much,

In the absence of geological maps of the Parker, it is difficult to recommend specific development. In general, two projects would seem to be most promising. First, to see if the vein continues eastward, toward the Hailey-Triumph area (either from the Blacksmith tunnel or a lower level), and second, to see what sort of a fault cut off the bottom of the ore, and if a solution of the fault displacement might reveal a continuation of the original ore shoot.

There is a possibility that some of the International field geologists might get up to Hailey next spring. If the Parker mine were opened upat that time to permit mapping of the more important of the old workings, it is possible that the company might be able to do this mapping for you. I would suggest that next spring you write to Mr. M. B. Kildale, Chief Geologist, International Smelting & Refining Co., stating the accessibility of the Parker workings, and ask if there is a chance that the company might do some geological mapping, to assist you in future development.

Sincerely yours,

(Signed) Willard P. Fuller, Jr."

Sept. 8, 1948

Dear Mr. Comer:

I was glad to receive your letter, and particularly interested to know that you were working in the raise, to connect the Montgomery tunnel with the upper Parker workings. As I remember, we thought that by raising 10 to 15 feet, and by fanning out longholes from the upper walls of the raise, a connection would be made. The best estimate possible from the available information indicated that the workings of Level No. 5 would lie from 30 to 40 feet above the track level of the Montgomery tunnel, but this is just a guess. According to the map, the No. 5 level would lie about 10 feet SW of the raise. It might be a good idea to run a sublevel at 30 feet above the Montgomery track level for 20 feet SW, then at a point 15 feet from the wall of the raise, drill long holes up, down, and at angles of, say plus and minus 60, on the NW and SE sides of the sublevel crosscut. .....

(Signed) W. P. Fuller, Jr."

THE EXPLORATION

20. Lead. Associated minerals are silver, gold, copper.

21. The applicant proposes to diamond drill the beds and the lime formation in the Parker mine from the Montgomery tunnel level, and attempt to locate the continuation of the old Parker ore shoot, as well as open up new shoots of ore, both high grade and milling.

It is believed that the diamond drilling program can be completed in six months.

After completion of the diamond drilling program, and the location of the ore shoots is determined, we would like to drive a lower tunnel, if it is deemed feasible, and develop the property from that level, and at that time work out a development and milling program.

22. Reference is made to Bulletin #90 and Bulletin #814, excerpts from which are attached to Question 16.

A geological map of the Montgomery tunnel is being prepared but it will not be completed in time to include in this application.

Map of underground workings is attached.

THE REQUIREMENTS AND COSTS

23.

(a)	1 Diamond Driller - 150 days @ $13 per day	$1950.00	
	1 D. D. Helper 150 " " $12 " "	1800.00	
	1 Compressor Man 150 " " $12 " "	1800.00	
			$5550.00
(b)	1 Supt.-Mgr. 6 mo. @ $400 per mo.		2400.00
(c)	None		
(d)	None		
(e)	1 Diamond Drill	$2500.00	
	1000' fiber air hose	500.00	
	1 Used Air Blower and 1200' air vent pipe	1200.00	
			4200.00
(f)	None		
(g)	Six months @ $800.00 per month		4800.00
(h)	Gas, oil, miscl. - six months		1500.00
(i)	None		
	Total		$18450.00

24. The foregoing estimate is based upon six months operations.

Estimated diamond drilling is 10,000 feet, an average of 1500 feet per month.

Estimated average monthly expenditure $3075.00.

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. .....

Date received .....

Participation .....

RECEIVED OCT 2

Parker Mining Company, Inc.,
Box 938
Ketchum, Idaho

Name and address of applicant

Date May 28, 1951

FILL IN THIS BLOCK

Date of application May 28, 1951

Estimated cost $18,450.00

Mineral or metal Lead

Percentage of Government participation Fifty per cent.

Location of mine Sects. 10-11, Tp. 4 N.R.18 E. of B.M., in Warms Springs Creek Mineral Dist., Blaine County, Idaho; approx. 6 mi.E. of Ketchum, Idaho, in Parker Gulch.

Date of filing MF-100 .....

DMA Docket Number, if available 324

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? Corporation

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

*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders. See Page 1 attached.

*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project. See Page 2 attached.

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

6. If owner, state what claims, liens, or encumbrances, if any, are against the property. See Page 2 attached.

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. See Page 3 attached.

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)? See Page 3 attached.

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

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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 Page 4 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. Parker Mine

*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 Page 4 attached

*13. State source and quantity of water available for operations and its sufficiency at all seasons. See Page 4 attached. State amount of power to be used, rate per hour or other cost, and source. See Page 4 attached.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. See Page 4 attached.

15. State in detail how the ore could be shipped and how and where milled. See Page 4 attached.

*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 Pages 5 & 6 attached.

(*b*) State briefly the known history and production of adjoining and neighboring properties. See Page 6 attached.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations. See Page 6 attached and Pages 7 to 36.

*17. Production:

(*a*) If mine is in production, furnish the following information: Mine is not in production.

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

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

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

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

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

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

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted? See Page 37 attached.

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. See page 37 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. See page 38 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 page 39 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. See Page 39 attached.

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.

Parker Mining Company, Inc.,
(Name of company)

By Haber Comer
(Signature of authorized official)

May 28, 1951
(Date)

Manager
(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

THE APPLICANT

3.	Howard W. Hill	Carlsbad, California	President and Director
	G. W. Burgess	Twin Falls, Idaho	Vice-President and Director
	Frank Brown	Twin Falls, Idaho	Secretary-Treasurer and Director

Five Largest Stockholders

Heber Comer	Ketchum, Idaho	Manager
Howard W. Hill	Carlsbad, California	
O. S. Burgess	Twin Falls, Idaho	
G. W. Burgess	Twin Falls, Idaho	
Henry Rees	Twin Falls, Idaho	

Note: The annual meeting of the corporation will be held on May 28, 1951, at which time new directors will be elected. The proposed new directors are Mr. Heber Comer, Dr. Howard W. Hill and Mr. E. D. Adkins, whose address is Richfield, Idaho.

4. In 1947 the Amicus Trust, through Heber Comer, Trustee, purchased the Parker Mine. The Trust held title to the property until August, 1949. In 1949 the Amicus Trust was converted into a corporation, namely, Parker Mining Company, Inc., an Idaho corporation, and title to the Parker Mine was conveyed by the Trust to the corporation.

Practically all of the recent work on the Parker Mine was done by the Amicus Trust during its ownership. This work consisted of cleaning up old workings, dewatering, retimbering, drifting, raising, etc. These operations were under the supervision and management of Mr. Comer, and future operation of the mine will be under his supervision and management. Mr. Comer has had more than fifteen years experience in mining, in tunnel work, and the various phases of development.

The Amicus Trust financed its mine operations under the management of Mr. Comer; selling costs were held to a minimum; funds raised were used for organization costs, purchasing the property, purchase of equipment, and actual mine development, the operations being conducted on the most economical basis possible under existing conditions. Neither the Amicus Trust nor the Parker Mining Company, Inc., has permitted promotional selling of its stock. The controlling interest in the corporation is held by Mr. Comer.

6. There are no encumbrances or liens on the Parker mining property.

9.

Balance Sheet
Close of Business July 31, 1950

Assets:

First Security Bank, Hailey, Idaho	$ 42.18	
Special Deposit-State Ins. Fund	100.00	
Organization, Incorporation Costs	766.82	
Assays	101.38	
Geological & Engineering	992.99	
Lease & Properties	5284.91	
Road Improvement	481.50	
Equipment Purchased	8240.42	
Mine Development Cost	36484.11	
Total		$52494.31

Liabilities:

Federal Withholding Tax Accrued		533.70	
Federal Old Age Benefits Accrued		114.00	
Accounts Payable, Salary Heber Comer		7265.60	
" " Cash advances "		453.07	
Realized from sale of Units & Stock	$45170.00		
Less Commissions paid & allowed	1041.96.		
		44128.04	
			$52494.31

Note: No appraisal of property owned by the corporation has been made.

Note: The foregoing is the last balance sheet made. Since July 31, 1950, some funds have been raised but the property has been inactive. At present we are raising funds through the sale of stock to continue operations, up to $10,000.

Applying rental on equipment in accordance with Section 9 of Mineral Order 5 we will have sufficient funds to cover our one-half of the cost of operating under the proposed loan.

THE PROPERTY

10. (a) The Parker Mine, consisting of 6 patented claims, namely:

(b) The Parker, Montgomery, St. Louis, Western Reserve, Una and Uva patented mining claims, situated in Sections 10 and 11, Tp. 4 N. R. 18 E. of Boise Meridian, in Blaine County, Idaho. The property is in the Warm Springs Creek Mineral District, in Parker Gulch.

12. The Parker Mine is located approximately 6½ miles East of Ketchum, Idaho, which is the railroad shipping point; it is 4.3 miles North of U.S.Highway #93, on good road, with about a 5% grade. The road may easily be kept accessible throughout the year.

13. Two large springs which flow throughout the year will give ample water for all mining and/or milling purposes; in addition there is water from the mine tunnels.

14. Two 105 Schramm Compressors
1 Tugger Hoist
1 Sinker Pump
1 Pressure Tank
1 Receiving Tank
1 Dressing Block
1250 feet of pipe
1500 feet of track
Small Tools
1 1½ ton truck

15. The ore can be trucked to railroad shipping point, Ketchum, Idaho; from there shipped to the smelters at Salt Lake City, Utah, a distance of about 300 miles. The truck hall from mine to railroad would be about 6½ miles.

16. The early development of the Parker Mine is referred to in excerpt from U.S.G.S.Bulletin 814, and the recent report made by the Idaho State Bureau of Mines, Bulletin #90, attached to this application.

Along with other mines in the Wood River area, the Parker mine was closed down at the time of the drop in the price of metals. In 1927 an attempt was made to reopen the Parker (Blacksmith) tunnel on the producing level. The work was conducted by the original owners of the property. Due to improper timbering, a cave-in occurred and two local men lost their lives. After this unfortunate incident, no further work was done on the property. The mine remained closed then until recently reopened by Mr. Comer, Trustee of the Amicus Trust, predecessor of the Parker Mining Company, Inc.

The Trust cleaned up and retimbered the old Parker drift, driving new tunnel around the heavily caved portion, and intersected the old workings of the mine at that level. Some sampling of old stopes and pillars was done, for a distance of over 400 feet. All milling ores had been left in place by the early operators. At this level there is an undeveloped ore zone from 30 to 50 feet wide. We were unable to go down the winze more than 300 feet due to water, therefore could not continue our examination. We expect to complete dewatering of the winze this season, and complete a raise from the Montgomery level to the Parker, and complete our examination and sampling.

Our next work was the cleaning up, retimbering, etc., of the lower cross-cut footwall tunnel (Montgomery), which is 225 feet below the Parker tunnel. The main crosscut tunnel is 1250 feet long from the portal to the point where we are raising between the two levels. There is additional cross-cut work of approximately 1000 feet.

In the Montgomery tunnel, we found that no bedding planes had been explored; tops of beds had been cut; no effort evidently had been made to explore the beds between the two tunnel levels, although the formation warrants an exploration thereof. No attempt had been made to locate the downward extension of the old Parker ore shoot which produced the high grade ores which are shown in the list of early-day shipments.

Parker Mining Company, Inc.,
Box 938
Ketchum, Idaho.

16.(cont.) At this point we were compelled to temporarily cease operations due to lack of working capital.

(b) We refer you to Bulletin #90 of the Idaho State Bureau of Mines for information relative to the Triumph Mine, which is located West of the Parker Mine, and whose reputed production so far has been in excess of $60,000,000, and which is now operating on a large scale.

According to U.S.G.S.Bulletin #814, the Elkhorn mine, at the mount of Parker Gulch produced approximately $1,500,000 worth of ore in the early days.

(c) See excerpt from Bulletin #90 and U.S.Bull.814 attached, together with maps attached.

EXCERPTS

From

Pamphlet No. 90 October, 1950.

STATE OF IDAHO
C. A. Robins, Governor

IDAHO BUREAU OF MINES AND GEOLOGY

A. W. Fahrenwald, Director

Detailed Geology of Certain Areas in the Mineral Hill and Warm Springs Mining Districts

Blaine County, Idaho

By

A. L. ANDERSON, T. H. KIILSGAARD and V. C. FRYKLUND, Jr.

University of Idaho
Moscow, Idaho

Parker Mining Company, Inc.,
Box 938,
Ketchum, Idaho.

THE GEOLOGY AND ORE DEPOSITS OF THE TRIUMPH-PARKER MINE MINERAL BELT

by

Thor H. Kiilsgaard

Abstract

The Triumph-Parker mine mineral belt is underlain primarily by the Milligen formation of Mississippian age. This formation consists of argillites, limestones, and quartzites, and their various gradiational facies. Thrust remnants of Wood River formation (Pennsylvanian) cap some of the higher ridges and hilltops in the area. Along the western border, the Milligen formation is overlain by a series of volcanics, and interbedded sands, tuffs, and gravels. Intrusive dikes, chiefly andesitic, crop out throughout the district, and are particularly evident in some of the major shear zones.

A series of major shear zones, most of which strike west-northwest and dip at moderate angles to the Southwest, occur throughout the area. Many of these have been invaded by mineralizing solutions which have created ore bodies. The ore bodies are of two types: (1) fissure fillings; and (2) replacement bodies originating from replacement of susceptible limestones. The ores are of value primarily because of their lead, zinc, and silver content, although some gold and copper is also present.

The district has been intermittently productive since the eighteen eighties with the Triumph, North Star, Independence, and Parker mines being the chief contributors.

Although past mining operations have bottomed many of the ore shoots at comparatively shallow depths, there is reason to believe that ore should continue below the present lower mining levels.

Acknowledgments

Throughout most of the field season the writer was assisted by Mr. James Grant, graduate student of the University of Idaho School of Mines. The staff engineers of the Triumph Mining Company were most cooperative in contributing time and information, and in conducting the writer on tours through the Triumph property. The assistance of Mr. Heber Comer of the Parker Mining Company, Inc., is gratefully acknowledged....

Location and Accessibility

The Triumph-Parker mine mineral belt is in the Warm Springs Mining District, Blaine County, Idaho. It is roughly five miles east of U. S. Highway 93, between Hailey and Ketchum, and extends from the East Fork of the Wood River about three and one-half miles northwest to Parker Gulch (Fig. 1). The Triumph mine is located in the southeastern part of the area, twelve and one-half miles north of Hailey. A secondary road leads from the Triumph northwest to the Independence mine and then down Independence Gulch to its junction with Elkhorn Gulch. The road continues to the west and intersects U. S. Highway 93 one mile south of Ketchum. This road, or branches therefrom leads to most of the mining properties in the district....

Topography

The Triumph-Parker mine region is typical of the semi-arid and mountainous topography in that section of Idaho. Elevations range from 5800 to 8000 feet above sea level. The more prominent valleys have aggraded floors, some with distinct alluvial terraces. Many of the tributary valleys are occupied by intermittent streams and are to be viewed more as gulches than valleys. For the most part, they are walled by steep slopes which rise rapidly to narrow interstream ridges. The similarity in the southwest trend of some of the gulches suggests their control by a major fault pattern; however, such cannot be substantiated by field studies.

Geology

The sedimentary rocks of the region have been classified by U. S. G. S. Bulletin 814 as being members of the Milligen and Wood River formations, of Mississippian and Pennsylvanian age, respectively (1. pp. 25-34). There are also gravels and interbedded sandy tuffs of early Tertiary age, terrace gravels, and recent stream alluvium. Igneous rocks include extensive andesitic flows and several varieties of dikes.

Carboniferous Sedimentary Rocks
Milligen Formation (Mississippian)

Distribution and Lithology. - The dark, fine-grained, argillaceous rocks that crop out in a broad northwest-trending belt across the eastern part of the area are members of the Milligen formation (Fig. 16). They take their name from the type section exposed along Milligen Creek, which empties into the East Fork of the Wood River about one-half mile east of the Triumph mine. This formation, which is the host rock for all the ore deposits in the Triumph-Parker mine area, has a regional northwest strike and southwest dip.

The absence of horizon markers, and the abundance of local crumpling and faulting makes it difficult to measure the formation thickness. A measured section in Parker Gulch showed a thickness greater than 7500 feet; however, this measurement may be in error, because of the possible repetition of beds. Certainly, the formation thickness is more than 5,500 feet.

The Milligen formation is composed mainly of black carbonaceous argillite, the product of mild regional metamorphism. Perhaps the most noticeable feature of the formation is the abundance of carbonaceous material, particularly the graphitic films on cleavage and fracture surfaces. Often, where mine workings have penetrated rocks rich in graphite, the mine dumps resemble piles of coal. Other distinguishable lithologic units present are quartzitic beds, limy members, and at the base, a series of brown sandy shales. Gradations from one rock type to another are present throughout the formation.

In certain areas metamorphism of the Milligen formation is more pronounced. Tactite, formed by contact metamorphism of limestone beds, is present near the mouth of Parker Gulch. On the western side of Independence hill, on Telephone Peak, and at other points, some limestone and limy argillites have been altered to a whitish lime-silicate rock composed of accicular tremolite crystals and other lime-silicate minerals. A spotted argillite member, the product of incipient metamorphism, crops out in a road-cut between Chicago Gulch and the Independence mine.

Although there are no dependable horizon markers in the Milligen formation, two limestone beds are recognized in the Triumph mine area and are thought to continue northwest beyond Parker Gulch. These limestones, while persistent in attitude, are locally concealed by surface mantle and elsewhere appear to lens out or to be faulted. Inasmuch as the intersection of mineralized

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Ketchum, Idaho

structures and limy members often controls the location of replaced ore bodies in the Triumph-Parker mine area, an attempt was made to map the limestones and to observe their condition where cut by faults. (Fig. 16).

The upper limestone crops out on the ridge about 400 feet west of the portal of the Lucky Coin mine. The bed is about 75 feet thick, strikes N. 64 deg. W. and dips 55 deg. S.W. To the northwest, across Independence Gulch, and to the southeast near Chicago Gulch, it passes beneath andesite. It is a dark blue, fine-grained rock that weathers light gray. The more weathered surfaces are covered with blades and sheathlike aggregates of amphibole crystals, probably tremolite. The member is penetrated by the Lucky Coin tunnel.

The Middle limestone member is best exposed in Independence Gulch northwest of the Lucky Coin portal. It is a rather massive blue-gray limestone with a rough appearance on the more weathered surfaces. It tends to be a bluff-maker, as evidenced in Chicago Gulch. In Keystone Gulch this member is 55 feet thick but appears thicker in Independence Gulch, owing to a dip slope. The Middle limestone may be traced to the ridge northwest of Parker Gulch where it is overturned and appears to lens out. To the southeast, it passes beneath hillwash from Independence hill. This limestone is believed to continue beneath the hillwash and andesite cap and reappear near the head of Triumph Gulch from where it continues on to the southeast across the Triumph holdings. It is described in the section on the Triumph mine as the Upper tremolite limestone.

The Lower limestone is separated from the Middle limestone by 150-200 feet of argillite. It crops out in the road cut between the Triumph and Independence mine, and at the mouth of Chicago Gulch where it strikes N. 50 deg. W. and dips 44 deg. S.W. About 150 feet above the Triumph-Independence road the limestone terminates abruptly against what may be a fault, but which cannot be confirmed because of heavy surface mantle. Further to the southeast, in Rose Gulch, a limestone with similar characteristics reappears. This limestone is believed to be the southeast continuation of the Lower limestone and is discussed in the section on the Triumph mine under the title of Lower tremolite limestone. The Lower limestone may be traced northwest with the dip gradually becoming steeper. On Elkhorn ridge the beds are vertical and in Parker Gulch the dip is overturned to the northeast. The Lower limestone is explored by the June Day workings, where an appreciable ore body is formed at its intersection with the June Day fault. The rock is described in the section on the June Day mine.

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The Elkhorn limestones underlie the Lower limestone, separated by several hundred feet of argillite. They crop out across the ridge near the old Elkhorn diggings, but appear to lens out to the southeast on Baltimore ridge. To the northwest, in the Bald Eagle area, the Elkhorn limestones have been strongly affected by fault action.

These portions of Fig. 16, mapped as undifferentiated Milligen, are argillites, gradations of limy and siliceous argillites, and quartzites, with boundaries too indefinite for accurate field mapping. By far the most abundant of these rock types are the argillites, which, where relatively unmetamorphosed, grade imperceptably into shales. The attitude of the argillite members is often strongly contorted, particularly where they are interbedded between more competent members such as limestones and quartzites. Inasmuch as the argillites are easily deformed by stress they are usually the sites of strongly contorted areas and of the larger faults or shear zones, particularly those which have resulted from compressive stress.

Wood River Formation (Pennsylvanian)

The Wood River formation is described in U. S. G.S.Bulletin 814, p.34 as being Pennsylvanian in age. A large block of the formation occurs in the southern part of the Triumph-Parker mine area, but the described outcrops are thrust remnants that cap North Star Peak, Grouse Peak, and the ridge above the Baltimore mine. Wood River outliers are separated from the underlying Milligen formation by a low angle thrust fault that is inclined to the southwest. The thrust fault is characterized by a brecciated and recemented zone, which, owing to its resistance to erosion, often stands out in relief.

Lithology. The most recognizable lithologic units of the Wood River formation includes blue-gray sandy limestones, gray quartzites, and fine-grained siliceous limestones. In general, the formation members are lighter colored, more calcareous and more massive and bluff-forming than the underlying Milligen members; however, there are exceptions. No identifiable fossils were found in the formation, but Merriam (10), in describing the Wood River exposed on North Star Peak, points to fossils of an indeterminate character occurring in a medium to coarse-grained crinoidal limestone. These include productids, stony bryozoa, tabulate corals, and probable fusulinids.

There is no evidence of sulphide mineralization in any of the Wood River formation outliers in the Triumph-Parker area. On North Star Peak a blue-gray limestone is cut by numerous quartz and calcite stringers, but there appears to be no evidence of accompanying sulphide mineralization.

Tertiary Sedimentary Rocks

Gravels and Tuffs

A northwest-southeast trending belt of pebble gravels, sands, and interbedded tuffs occurs east of the mouth of Keystone Gulch. These sediments underlie the large expanse of andesitic lava that crops out south of Independence Gulch. (Fig. 16). To the northwest, beyond the mapped limit, the pebble gravels overlie a lava flow. The sediments are composed chiefly of sub-rounded lava and quartzite pebbles, although fragments of argillite, sandstone, and siliceous limestone are common. Pebbles range in size from three-eighths of an inch to two and one-half inches, in the long dimension. They are water sorted and locally interbedded with more sandy layers. Some light-brown, banded, tuffaceous deposits occur in the southern part of the area. The laminae vary in thickness, with an average of about one-tenth of an inch. The tuffs are probably products of volcanic explosions and the fact that they are now contaminated with more sandy aggregates is indicative of fluvial deposition

Inasmuch as these sediments are interbedded with lava flow, they are thought to be of the same age as those flows. This age is probably Miocene(?). (1, pp. 53-56).

Terrace Gravels and Alluvium

The Terrace gravels along the East Fork of the Wood River, and the alluvial debris along all of the streams are the products of relatively recent erosion. The alluvial matter is derived from all of the rocks in the vicinity and range in size from silt to boulders several feet in diameter. It is probable that some of the higher terraces, composed of boulders, coarse cobbles, and gravel, have originated from outwash of alpine glaciers present in the higher mountains during Pleistocene time.

Igneous Rocks

Volcanic Rocks

Andesitic Flows.- Andesitic flows cover much of the central portion of the area, especially south of Independence Gulch. The major part of these flows is hornblende andesite. Other varieties of lava were recognized but no attempt was made to differentiate them into mappable units. The andesitic rock has a dark greenish-gray color on fresh fractured surfaces, and plainly discernable plagioclase phenocrysts. The greenish color of the rock matrix results from an abundance of chlorite. The rock weathers to a rusty-brown color.

The flow capping Porphyry Peak, east of Independence Gulch, is a greenish-black, porphyritic augite andesite. Similar remnants cap ridges and peaks, at nearly the same altitudes, to the northwest and northeast.

The irregular eastern contact of the andesitic flow resting unconformably on the underlying Milligen formation, suggests that the lava was poured over an uneven surface, probably a lowland area or valley with its attending foothills. The long spurridge of Milligen that penetrates the lava adjacent to Elkhorn Gulch, indicates that the old land surface in that area, had a gentle dip to the southwest.

Intrusive Rocks

Dikes.- All intrusives noted in the area are described as dikes, although many are more like sills, lying almost in the bedding of the enclosing host rock. For the most part they are andesitic in composition, although a horn-blende-granite dike crops out on the Bald Eagle property, and basic lamporphyre dikes are common throughout. The dikes vary in thickness from a few inches to over 15 feet, and have short strike lengths, lensing out at the ends. The general strike is northwest and the dip is to the southwest at varying angles; there are several exceptions. They are chiefly confined to thin-bedded argillaceous members of the Milligen formation, although andesitic dikes crop out in the more competent Wood River rocks above the Baltimore mine. At the outcrop, the more acidic porphyritic dikes usually weather to shades of greenish gray in which the light gray outlines of the plagioclase phenocrysts are plainly visible. These plagioclase phenocrysts commonly measure up to three-eighths of an inch in length. The black, aphanitic, lamporphyre dikes are usually fresher and less affected by alteration.

Underground, light colored andesite porphyry dikes are common in the larger shear zones, although occasionally they wander off into the walls in relatively unfractured rocks, as in the Bonanza tunnel of the Baltimore mine. In the shear zones dikes are often crushed and hydrothermally altered to a whitish gouge-like material, much the same as some types of fault gouge. It is evident that during intrusion the magmatic material followed shear zones and was deformed by subsequent fault adjustment. In their crushed condition they were more easily altered by migrating solutions. Those dikes away from the shear zones are less altered.

Inasmuch as the dikes are common in shear zones they are often contiguous to ore bodies, and have even been found partially replaced by sulphides, as in the Bald Eagle mine and in parts of the Triumph mine. For this reason early mine operators commonly drifted on the dikes, thinking they were responsible for the mineralized deposits. The fact is, however, that in those exposures accessible to observation, the

dikes are pre-mineral, and are associated with ore bodies only in that both have favored the more permeable pre-dike and pre-mineral shear zones as sites of deposition. In this respect the dikes are comparable with those occurring in the Milligen formation in other areas (11, p. 12).

Structure

Folding

The Milligen formation is strongly folded and faulted in the Triumph-Parker mine area, but generally strikes to the northwest and dips to the southwest. At the mouth of Parker Gulch the dip has been overturned to the northeast. Throughout the area the formation appears to be the limb segment of a southwest-tilted homoclinal block. An interesting feature of the formation is that only the more competent rocks, limestones, quartzites, and some limy argillites are persistent in attitude. The pliant, incompetent argillites interbedded between have been intensely crumpled and distorted by differential movement, having yielded more readily to deformational stress. In places stress has deformed the argillites beyond their elastic limit, resulting in rupture. This action has emplaced most of the shear zones so common in the argillitic members, particularly those striking northwest and dipping southwest. Such shear zones commonly grade into regions of tight folding and crumpling, both on the strike and dip, with no apparent fracturing. A structure passing into such a crumpled area is difficult to follow in underground exploration, and, on occasion, has been lost completely.

The folded Wood River formation remnants, separated from the Milligen by a thrust fault, indicate that major folding was post-Pennsylvanian. It is probable that folding preceded thrust faulting, though both actions could have occurred somewhat simultaneously. In U.S.G.S. Bull.814, it is suggested that the major period of deformation be correlated with the Laramide orogeny which came near the end of the Mesozoic era.

Faulting

Thrust Faulting.- On North Star and Grouse Peaks, and on the ridge above the Baltimore mine, a major pre-mineral thrust fault separates the Wood River from the Milligen formation. On Baltimore ridge, the fault is marked by a brecciated and recemented zone which is at least 15 feet thick near the portal of the No. 2 tunnel. The fault plane is tilted about 9 degrees to the southwest. On North Star Peak, Merriam (10) describes the tilt as about 17 degrees to

the west. Breccia fragments comprising the zone range in size from microscopic to those an inch in length. They consist of black chert, quartzite, and siliceous limestone, embedded in a siliceous groundmass. The breccia-fragments show a distinct orientation with the long dimension roughly aligned in the plane of thrusting. The thrust zone of the above mentioned fault outliers is comparable in all respects with the one existing near the mouth of Decker Gulch, as described in Bull. 814, and is probably closely related, if not the same.

The tilt of the thrust plane suggests that movement was from southwest to northeast. Thrusting probably originated from compressive stresses from the southwest, active during late folding of the carboniferous sediments.

Reverse faulting.- Reverse faulting, though analogous to thrusting, is herein confined in description to shear zones of a somewhat steeper dip and less regional in extent. Those of chief importance include the Triumph, North Star, Independence, Baltimore, Amicus, Quaker City, and the Parker shear zones. Locally, minor wisps of drag folding in the walls adjacent to the shear zones are indicative of normal fault action; however, this is probably the result of gravitational adjustment at some period after formation of the fault. A major period ofoblique, reverse fault movement is suggested by larger drag folds, fault attitudes, and the almost universal existance of a well defined slickensided hanging wall, commonly with pronounced mullion structure. Hersey (1, p. 176) described the Independence lode as being on a reverse fault, and bases his conclusions on local stratigraphy. Merriam (10) advances the theory that the principal component of movement along the North Star and Triumph fissures has been of a reverse dip-slip nature. The major reverse faults, for the most part, strike in a west-northwest direction and dip moderately to the southwest, usually at angles less than the southwest dipping bedding of the host rock. They are pre-mineral faults that probably originated from the same compressive stress that gave rise to the above-mentioned thrust fault. They favor the incompetent argillites as host rocks and frequently merge into zones of tight and crumpled folding. Ore found within these zones of shearing is often broken and intermingled with fault gouge, although nowhere is there evidence of major post-mineral displacement within the plane of reverse faulting. It is believed that where post-mineral fracturing does occur, in the plane of shearing, that it is only a minor structural readjustment.

In addition to those reverse faults mentioned above there are others that are more properly described as flat faults. These are observed in many mine workings but not in enough detail for accurate description.

In the Triumph mine a set of pre-mineral flat faults are tilted in a westerly direction, which would suggest that they too are allied with a compressive stress acting from the southwest.

Normal faulting.- There appears to be several patterns of normal faults in the area, both pre- and post-mineral, some of which cannot be described from the data on hand.

A pattern of pre-mineral normal faults, striking northeast and dipping steeply southeast occurs in upper Parker Gulch. (Fig. 16). Maximum displacement measured in this fault pattern was about 350 feet, apparently with the hanging wall being displaced to the southwest. Whether this fault pattern had any effect upon the mineralized Parker and Amicus veins is not known.

The June Day fault, Fig. 21, strikes northwest and dips northeast. It appears to be a pre-mineral normal fault, but its displacement was not determined.

There are other faults, most of which strike in a northerly or northeasterly direction, about which little is known. They commonly offset lithologic members but are either concealed by debris or too indefinite to map. It is believed that pre-mineral normal faults are associated in some way with stress that emplaced the thrust and reverse faults, though such a postulation cannot be proved. One possibility is that they are resulted from lateral stress developed during thrusting movement. This could account for their near-normal strikes to the strikes of the major reverse faults.

Post-Mineral Normal faults.- Throughout the area there is a pattern of post-mineral normal faults striking to the north and northeast, and dipping northwest and north. Some of these faults offset mineralized structures. The best example of this type of faulting occurs in the western portion of the 700-level of the Triumph mine. Another example is the North fault as exposed in the Bonanza tunnel in the Baltimore mine. (Fig. 20).

There are undoubtedly many faults in the Triumph-Parker mine area that have not been recognized. The absence of reliable horizon markers and occurrence of heavy surface mantle interferes with interpretation, not only of folded structure, but of faulting as well. For this reason no attempt was made to map faults inferred by topography or by drainage patterns.

The existence of many of the inferred normal faults, postulated in Bull. 814, p. 70, is doubted. An example of such an inferred fault is the normal fault a few hundred feet west of the Lucky Coin portal, which reputedly separates the Milligen formation from andesitic flows.

Recent mining exploration has failed to confirm this fault. The Lucky Coin tunnel penetrates the Milligen-andesite contact, but shows no evidence of fault separation. Furthermore, at the tunnel contact, limestone fragments from the Milligen formation have a weathered appearance, similar to those now existing at the outcrop. Such an underground rock condition suggests an ancient land surface that was later covered with lava. The 700-level of the Triumph mine also penetrates andesitic flows with no indication of a fault contact.

ORE DEPOSITS

Classification of the Deposits

The ore deposits of the Triumph-Parker mineral belt fall into two groups: (1) mineralized fissures or shear zones, most of which strike in a west-northwest direction and dip to the southwest at moderate angles usually 30-35 degrees; (2) replacement deposits occurring at the intersection of mineralized shear zones and susceptible limestone members. Both types are found only in the Milligen formation.

Included in the first group are the deposits worked in the Triumph, North Star, Independence, Baltimore, Parker, Lucky G. I., and possibly Elkhorn mines. The second group includes the bedded siliceous and "complex" ores of the Triumph and North Star, and deposits in the June Day, and part of the Bald Eagle. In addition to these, part of the ore mined in the mineralized shear zones occurs as a replacement of sheared calcareous material, and not as fissure filling.

In general, ore throughout the district has similar characteristics. It is of value primarily because of its lead, zinc, and silver content, although there are exceptions. Fissure ore in the Triumph mine is higher in gold values than are the replacement deposits. The "complex" ore at the Triumph consists of galena and sphalerite in a pyritic gangue; there is little quartz or siderite present. The replaced ore at the June Day is largely gold, with little galena or sphalerite present.

Deposits in Shear Zones

The mineralized shear zones form the most common ore deposits in the district. For the most part, they are west-northwest striking, southwest dipping, pre-mineral reverse faults, some of which may be traced at the outcrop by vegetation markings. They favor the more incompetent argillitic members, probably because these rocks yielded more readily

to stress than the more competent quartzites and limestones. The shear zones range in thickness from a few inches to over 40 feet. In places they consist of a few gouge or graphitic-faced fractures, elsewhere they broaden into heavy shear zones composed of a multitude of close-spaced slickensided slips. Such zones occasionally grade into highly crumpled and fractured areas in which trace of the shear zone is difficult to follow, and may even be lost. Ore and gangue minerals are unequally distributed along the zones of shearing. They commonly occur as pods and lens-like aggregates or as streaks and stringers intermingled with fault gouge. Occasionally the ore is massive, but is more likely to be somewhat granulated, possibly owing to post-mineral movement in the fissure. Ore is often contiguous to igneous dikes in the shear zones, and, on occasion, has replaced dike material.

The shear zones are not simple planes but show sinuous surfaces and many irregularities. It is evident that during the time of mineralization the greater part of the individual shear zones, being heavy with gouge and sheared material, were too tightly compressed and impermable to permit entry of the mineralizing solutions. Only in the more open areas, or those irregular sections reopened by recurrent fault action, were there sites available for mineral deposition. Such fault action has accounted for a large part of the stringers and discontinuous lens-like ore shoots commonly found. In some calcareous sections of the shear zones mineralizing solutions replaced the limy substance thus forming deposits in part fissure filling and in part replacement.

Some ore shoots occur where shear zones truncate the bedding of thinly-laminated argillites. In these areas slippage along the shear zone apparently produced torsional stress which parted the adjacent bedding planes, thus creating sites for mineral deposition. In such areas ore appears to leave the fissure and curve into the bedding as wisps and irregular veinlets, extending only a few inches or feet. Such ore formed chiefly as void-fillings; there is little evidence of replacement of the more impermeable argillite. Ore shoots of this general type are mentioned by Merriam (10) as occurring in the Triumph mine. This type also occurs in the Amicus vein, in the Quaker City workings, and probably in the ore shoot near the face of the No. 6 level of the Baltimore mine and extending upward.

The principal gangue minerals of the shear-zone deposits are altered wall rock, quartz, calcite, and siderite. In some cases pyrite is an important gangue mineral. Important metallic minerals include galena, sphalerite, tetrahedrite, and ruby silver. The Triumph vein also con-

tains appreciable gold. Quartz and calcite appear to have been the first minerals deposited, followed by sphalerite, galena, and tetrahedrite in that order. Ruby silver ores have been among the latest deposited. Judging from the brecciated and cross-cutting relationships, ore deposition was not continuous but was recurrent. In some instances younger sulphides appear to have replaced older sulphides. Illustrative examples are lenses and pods of lead ore that thin out on the ends to zinc ore. Such lenses were probably originally filled with sphalerite, only to be brecciated by recurrent faulting and replaced by later galena.

There is no evidence of mineral zoning in the shear-zone deposits, nor can any ratio be fixed on the lead-zinc-silver values. At some spots the ore shoots may be high in zinc values, elsewhere they run more to lead and silver.

REPLACEMENT DEPOSITS

Replacement deposits occur in limestone members that have been intersected by certain shear zones. The shear zones have provided avenues of approach for invading mineralizers, which, upon encountering susceptible limy members, have diffused into the rocks, deposited their mineral load and carried the replaced limestone away in solution. This type of mineral deposition has locally built up large irregular deposits with ore values gradually fading away from the shear zone. An example is the stoped deposit in the June Day fault hanging wall on the No. 3 level of the June Day mine. Recognition of the replaced deposits is often aided by preservation of textures and structures of the original limestone. This is particularly true of the bedded siliceous deposits in the Triumph mine where host-rock bedding is plainly evident.

The bedded siliceous and "complex" ores of the Triumph and North Star mines form the largest of the known replacement deposits. In the past "complex" ore accounted for the bulk of Triumph production. One ore shoot of "complex" is described by Merriam (10) as: "....an area roughly 700 feet wide by 170 feet long with a thickness varying from six feet in the upper part to fifty feet below." .....

GENESIS OF THE ORE DEPOSITS

The origin of the ores in this area is somewhat debatable. Former writers (1, pp. 101 and 10) who have studied the district, note that major mineralization is related to the Idaho batholith and its satellites, and to orogenic disturbances that accompanied its emplacement, probably in late Jurassic or Cretaceous time. They point to croppings of granitic rocks in nearby areas and call attention to the partially metamorphosed condition of the Milligen formation, suggesting that it is underlain at no great depth by plutonics. On the other hand, there are those who recognize the orogenic disturbances that accompanied intrusion of the batholith but who believe the ores to be genetically related to younger period of Tertiary igneous activity (6). Perhaps a closer appraisal as to the origin of the ores may be found in a study of the andesitic dikes so common in mineralized shear zones. The altered and occasionally replaced condition of these dikes implies that many of them are pre-mineral in age. Furthermore, the fact that similar andesitic dikes are found cutting the granitic rocks west of Bellevue, presumably related to the Idaho batholith, implies a younger age for dike intrusion. Although no dike and volcanic flow contacts were found, U. S. G. S. Bull. 814, p. 61, mentions occurrences of volcanic flows covering truncated porphyritic dikes, which leads one to believe that the dikes and accompanying or subsequent mineralization are pre-volcanic in age. This would place their age as post-batholith and pre-volcanic, or early Tertiary.

Groundwork for mineralization apparently was laid during the orogenic disturbance that folded and faulted the carboniferous sediments, probably in Jurassic or Cretaceous time. The major fault patterns were formed at this time. At a later date these shear zones were invaded by igneous dikes, which offers evidence that these shear zones are of major extent and had access to magmatic masses below. Recurrent faulting in the shear zones followed, and may have been concurrent with dike invasion, as testified by the sheared and granulated condition of so many of the dikes. It is probable that mineralizing solutions, ascending from the underlying magmatic bodies, found a means of access along the shear zones during this later stage of fault adjustment. As these solutions ascended and found favorable sites for deposition, they deposited their mineral load as fissure filling and as replacement of certain susceptible limestones encountered both within and adjacent to the shear zones. Textures and mineral associations suggest that the zone of deposition was only moderately deep. Fault adjustment was probably continuous throughout the period of

mineralization, inasmuch as a static faulting condition would have become choked and impervious to mineral deposition. The brecciated and granulated condition of the earlier deposited minerals, i. e., quartz, pyrite, sphalerite, and galena, tends to confirm this observation. It is believed that the inter- and post-mineral fault adjustments in the major shear zones have been minor, and have not displaced the ore bodies to any great extent.

There is no appreciable oxidation zone in the Triumph-Parker mine area. Occasional traces of secondary lead ores are found in mine workings near the surface; however, there are no instances of ore deposits being enriched by descending secondary mineralization. Absence of an extensive oxidized zone suggests that erosion of the overlying rock has been rapid enough to keep abreast of oxidation.

CONCLUSIONS

It is believed that the ore bodies of the Triumph-Parker mine mineral belt should continue below the lowest depths yet reached by mining. The deposits are of a moderately deep seated character and would be expected to continue on to greater depths. Ore bodies should occur in the mineralized shear zones in those areas that were accessible to mineralizers during the period of sulphide mineralization. These depositional zones will be found only by continued exploration. There is no evidence of a major fault pattern which might cut off the deposits with depth.

It is suggested that in any future exploration of the mineralized shear zones, that they be closely followed. Too many past exploration programs have attempted to gain "backs" by driving lower crosscut workings. Often, in doing so, they have completely lost the sought-after structure. In disturbed and contorted rocks, such as the Milligen formation, projection of mineralized structure through several hundred feet of unexplored ground is hazardous and is to be avoided whenever possible. Furthermore, to adequately explore these shear zones demands mine workings within the zones of shearing. The scattered and pod-like occurrence of the ore bodies makes it easy to intersect a barren zone with a crosscut, which often tends to discourage further exploration of the sheared area. For the same reason, diamond drilling has often proved valueless not only in that core recovery is difficult in the crumpled Milligen formation, but in that intersected barren parts of the shear zone are uninformative.

Parker Mining Company, Inc.,
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Ketchum, Idaho

PARKER MINE

Location and Development

The Parker mine is 6.7 miles east of Ketchum, in Parker Gulch. It comprises 6 patented mining claims covering portions of Sect. 10 and 11, T. 4 N., R. 18 E., Boise Meridian. The property is held by the Amicus Trust, currently under the management of Mr. Heber Comer of Ketchum, Idaho.

There are four tunnels on the property that explore the Parker vein. These include the Western Reserve, Blacksmith, Montgomery, and the St. Louis, (Fig. 19.) Other mine workings include the lower Parker tunnel, and the Amicus and Condolier. The latter two explore the Amicus vein. Several smaller diggings are scattered throughout the property. All workings are in the Milligen formation.

According to Bull. 814 the Parker deposit was discovered in 1883 by Eugene Cillenwater. During the next 15 years the property produced 1,552 tons of ore carrying 1,106,463 pounds of lead and 300,236 ounces of silver; the bulk of which was taken from one ore shoot about 75 feet long, extending from the Blacksmith level to some distance below. Bulletin 814 quotes the manager of the mine at the time of its production, who stated that the ore shoot was followed by a winze driven on the 30 degree dip of the vein for about 500 feet. At that point the vein terminated against a steeply dipping fault and no ore was found beyond.

At a later date the Montgomery tunnel was driven at a lower level to intersect the downward continuation of the Parker vein but this long tunnel and its accompanying crosscuts failed in their efforts.

The property has been worked intermittently since 1938 with the lower Parker tunnel, the Amicus tunnel, and the raise near the face of the Montgomery tunnel receiving most of the attention. It was idle during the summer of 1949.

GEOLOGY OF THE PARKER VEIN WORKINGS

The Parker vein crops out across a small ridge between the Blacksmith and Western Reserve tunnels. It strikes N. 72 deg. W. and dips 35 deg. SE. The vein has been explored by numerous pits which expose it as a rust-colored quartz-bearing shear zone whose average width approaches four feet. The vein wall rock is dark carbonaceous argillite. Although the vein is oxidized on the outcrop, the quartz when broken often presents fresh sulphides. An assay taken on the outcrop went .03 ounces in gold per ton, 17.5 ounces in silver perton, and 30 per cent lead (12). The vein may be traced up the hill beyond the Western Reserve tunnel but is soon lost beneath surface mantle.

The Western Reserve tunnel is caved 75 feet from the portal, and, in the area accessible, presents nothing but an 18-inch barren quartz vein.

During recent years the Blacksmith tunnel has been reopened for a distance of 350 feet; however, much of the tunnel is tightly lagged, making geologic observations difficult. The innermost 150 feet of tunnel follows the Parker vein, a pronounced shear zone striking almost east-west and dipping about 30 deg. S. A 30-inch quartz and calcite vein, containing some sulphides, occupies most of the shear zone at the caved face. The country rock adjacent to the footwall of the vein is a shiny, graphitic material with abundant slickensided surfaces. It has a greasy feel when touched and readily soils the hands. The graphitic substance is probably the result of metamorphism of bituminous material that was deposited with the argillitic country rock. According to an old mine map, 110 feet beyond the caved area a 500-foot winze was driven from the Blacksmith level. Several sub-levels and stopes led from the winze, all long since caved and now inaccessible.

The Montgomery tunnel, driven during the early 1900's, was reopened by Mr. Comer, who advanced a raise at the tunnel end to intersect the lower workings driven from the winze extending from the Blacksmith level. The tunnel and raise contain "bad air," and unless the air compressor is operating, forcing compressed air back to the raise, entry is hazardous and even then is restricted to the main tunnel. For this reason the tunnel was not mapped in detail, but a tracing of the

tunnel workings was obtained from a previous map. (Fig. 19). A small dike of andesitic composition is followed by the main tunnel, and by one short crosscut, and while it is reported to contain some gold values there is no evidence of lead-silver mineralization.

The St. Louis tunnel intersects and drifts on a flat dipping shear zone, which locally contains quartz lenses and stringers, and often good showings of sulphide ore. Where thickest, the vein dips from six to twelve degrees, elsewhere in areas of steeper dip the vein pinches. Near the winze the vein is four feet thick and contains abundant exposures of galena, sphalerite, tetrahedrite, and some ruby silver. Assays from this area run as high as 114 ounces of silver per ton, and 49.8 per cent lead. The ore is somewhat oxidized in the footwall areas of the shear zone. Crushed and dislocated quartz fragments suggest post-mineral shearing in the plane of the vein. Intricate drag folding of the thin-bedded argillite indicates the shear zone is a reverse fault, with perhaps minor normal fault adjustment.

Across the draw from the St. Louis portal, a 60-foot adit follows a major fault, striking N. 73 deg. E. and dipping 48 deg. SE. This, the St. Louis fault, displaces a 90-foot quartzite member 350 feet to the right, as the fault plane is faced. (Fig. 19). Although it cannot be proved, lithology of the faulted area suggests that the fault is normal.....

CONCLUSIONS

A study of the surface area, coupled with observations of vein structure in the Blacksmith and St. Louis tunnels, leads one to believe that the Parker and St. Louis veins, as shown in Fig. 19, are are the same structure. This conclusion is supported by cross sections drawn through the various workings. If such is the case, the Montgomery workings were of little value in the exploration of the Parker vein because they were too far in the footwall, a conclusion supported by their negative findings.

The Parker vein is said to be cut off by a steeply dipping strike fault somewhere near the bottom of the winze driven from the Blacksmith level. Inasmuch as this area is now caved, nothing could be learned of the nature of the fault. A projection of the St. Louis fault, as exposed in the short adit across the gulch from the

St. Louis tunnel, would intersect the Parker vein somewhere near the base of the winze and could possibly be responsible for termination of the vein in that area. Such a postulation would, of course, have to be investigated by further exploration.

RECOMMENDATIONS

The St. Louis tunnel area should be given priority in any future exploration program. The vein in this area is quite probably the continuation of the Parker structure, and, as such, represents an unexplored and promising part of that structure.

Continued advancement of the raise near the face of the Montgomery tunnel is likely to prove unsuccessful. The fact that it will intersect old mine workings comprised of several hundred feet of drifts, raises, and stopes, now flooded and caved, will not only be dangerous to mining operations but will likely be valueless because these areas have been previously explored.

From U. S. G. S. BULLETIN 814

PARKER MINE

The Parker mine is about 4 miles east of Ketchum in Elkhorn Gulch, in Sec. 10, T. 4 N. R. 18 E. The deposit is reported to have been discovered August 3, 1883, by Eugene Gillenwater, who found fragments of ore near a badger hole and eight days later made his first shipment, a carload which netted $1,003. The table below, compiled from records in the office of E. Daft, in Hailey, shows that 1,552 tons of ore carrying 1,106,463 pounds of lead and 300,236 ounces of silver was mined up to the end of 1898. More than half of this was treated at the smelter at Ketchum, and the remainder was shipped to smelters in Utah. There has been no production in recent years. The mine is reported to have yielded up to May 10, 1886, a total of $283,811.50 over and above freight and treatment charges, which averaged about $2 a ton. In depth the ore abutted against a fault gouge, and persistent efforts to find the vein beyond the fault have failed. The last of these attempts was made in 1911 and 1912, when a large amount of tunnel and crosscut work was done on lower levels.

(Attached is list of shipments above referred to).

The vein conforms nearly to the bedding of the inclosing Milligen argillite, which dips about 30 deg. SW. The rock is dominantly black calcareous argillite inclosing thin layers of bituminous limestone and has been intricately shattered. Along the fracture planes are films of graphite so pure that the hands are immediately soiled in touching unweathered material. ..... Igneous rocks occur only as dikes, although a short distance to the west there is a large area in which contact-metamorphic minerals are abundantly developed. A specimen of dike rock collected from the roadside in the vicinity of the lower tunnel is vogesite, one of the lamprophyres, and another specimen found as float on the hillside near the Blacksmith shop is a fine-grained graphite porphyry.

The vein material consists of galena, zinc blende, iron pyrite, tetrahedrite, and polybasite in a quartz-calcite-siderite gangue.
.....

The ore shoot that afforded the mine's production is said by Jenney, who was manager when the property was in operation, to have been about 75 feet long and to wedge out to a seam of calcite on the ends. It was followed down on the 30 deg. dip of the vein for 500 feet and terminated against a steeply dipping strike fault. The fault gouge contained no drag ore, but the ore against it was smooth and striated, suggesting a slight postmineral movement along a premineral fault plane. No ore has been found beyond the fault. The ore averaged between 7 and 8 feet in width and was roughly banded. Next to the hanging wall was 8 inches of quartz and galena; then a band of massive galena from 3 to 4 feet thick, which carried about 200 ounces of silver to the ton; next was 2 feet 8 inches of galena, gray copper, and polybasite, which carried from 1,000 to 3,000 ounces of silver to the ton; and between this band and the footwall was an 8-inch band of white quartz and gray copper containing from 100 to 500 ounces of silver to the ton. Sphalerite occurred only in the border portions of the vein. At a distance of 3 to 15 feet from the main vein in the footwall a parallel vein of galena, narrow but exceptionally free from gangue minerals, was also worked.

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PARKER GROUP OF MINES

(These Figures Taken From Photostatic Copies of Shipments Made Through the Hailey Sampler, Records of Mr. Daft.)

Date	Dry Wt.	Tons	Silver Oz.pr.T.	Total Silver	Lead %	Total Lead
10/6/83	5280	2.64	319.37	843.14	30.5	1610
11/27/83	5596	2.798	324.62	908.29	46.5	2602
1/5/84	20385	10.293	135.50	1392.95	40.	10293
1/19/84	30608	15.804	153.12	2343.35	70.	21426
1/26/84	21900	10.950	146.55	1604.72	65.5	14392
1/26/84	23375	11.688	140.40	1641.35	42.5	9934
2/8/84	15757	7.879	148.74	1171.92	71.5	11266
2/8/84	8938	4.469	178.35	797.05	42.	3751
3/8/84	23727	11.864	174.26	2067.42	70.	16609
3/8/84	19859	9.930	153.69	1520.48	35.5	7050
3/12/84	2020	1.010	1108.32	1119.40	10.	202
3/12/84	22167	11.084	153.12	1697.18	70.70	15672
3/22/84	8171	4.086	170.33	694.97	37.5	3064
4/16/84	8032	4.016	408.36	1639.81	9.	723
5/17/84	34388	17.194	236.23	4071.74	68.	23384
5/21/84	28432	14.216	319.83	4546.70	68.	19334
5/24/84	23336	11.668	191.25	2236.51	30.	700
6/4/84	29937	14.969	193.94	2903.09	27.	8083
6/6/84	21052	10.526	174.24	1834.05	71.	14947
6/25/84	24823	12.412	148.46	1842.69	70.	17376
7/3/84	30288	15.144	131.57	1992.50	23.	6966
7/6/84	27265	13.633	190.	2590.27	70.	19086
7/31/84	27256	13.628	119.67	1630.86	34.2	9322
8/7/84	38146	19.073	170.	3242.41	73.12	2805
9/6/84	27500	13.75	297.90	4096.13	66.	18150
9/16/84	19455	9.728	189.60	1844.43	43.	8366
9/17/84	9138	4.569	221.2	1010.66	66.7	6095
9/20/84	6207	3.104	349.8	1085.78	58.	3600
9/22/84	23075	11.538	265.82	3067.03	23.2	5353
10/8/84	25143	12.572	164.	2068.09	61.2	15388
10/10/84	24531	12.266	190.	2330.54	58.	14228
10/17/84	40792	20.346	283.2	5776.15	47.5	19376
10/22/84	38966	19.483	449.2	8751.76	46.	17924
10/27/84	37007	18.584	422.9	7825.34	37.	13693
10/29/84	33471	16.736	271.5	4543.82	39.	13054
11/6/84	35674	17.837	250.7	4471.74	35.5	12664
11/12/84	39049	19.525	226.	4424.37	34.5	13472
11/23/84	41392	20.696	174.65	3614.56	40.	16557
12/7/84	40169	20.085	220.	4418.70	52.5	21089
12/15/84	40285	20.143	227.3	4578.50	49.5	19941
12/18/84	40367	20.184	191.70	3869.27	67.	27046
12/19/84	13678	6.839	188.5	1289.15	40.7	5567

Parker Mining Company, Inc.,
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PARKER GROUP OF MINES

Page 2
Early Day Shipments

Date	Dry Weight	Tons	Silver Oz. pr.T.	Total Silver	Lead %	Lead Total
1/3/85	50345	25.173	262.50	6607.91	56.5	28445
1/7/85	50188	25.094	467.80	11638.60	54.	27102
1/9/85	30156	15.078	560.50	8451.22	47.	14173
1/16/85	30417	15.207	663.60	10091.37	40.	12165
1/31/85	30452	15.226	204.	3106.10	56.5	17205
1/31/85	31543	15.772	245.6	3873.60	55.5	17506
2/2/85	30378	15.189	374.	5680.67	48.7	14794
2/4/85	30582	15.291	433.50	6628.65	36.6	11193
2/23/85	30940	15.470	405.20	6269.99	47.5	13459
2/23/85	30057	15.027	282.30	4242.12	32.5	9767
2/25/85	30725	15.363	225.	3456.68	41.	12597
3/2/85	30275	15.118	257.80	3892.42	33.	9978
3/9/85	30360	15.180	175.60	2665.61	41.8	22690
3/18/85	29852	14.926	240.60	3591.20	38.5	11493
4/23/85	30859	15.430	243.	3749.49	43.5	13424
4/25/85	31571	15.786	192.40	3037.23	58.5	18469
4/30/85	31268	15.634	380.10	5942.48	46.	14383
5/6/85	31347	15.674	385.80	6047.03	46.	14420
5/30/85	31060	15.530	205.60	3192.97	51.	15903
7/1/85	30072	15.036	416.	6254.98	49.	14735
3/19/86	7270	3.635	32.7	118.86	7.	509
3/19/86	2991	1.496	120.5	180.27	59.	1765
3/23/86	6677	3.339	128.3	528.39	23.5	1569
3/23/86	2900	1.450	147.3	213.59	60.	1740
4/6/86	4671	2.336	94.8	221.45	36.5	1705
5/16/86	1991	.996	128.3	127.79	59.7	1189
5/16/86	21959	10.980	131.6	1444.97	39.	8564
5/16/86	1891	.946	913.1	863.79	60.	1135
6/16/86	8662	4.331	158.9	688.20	49.	4244
6/20/86	20911	10.456	100.9	1055.01	16.6	3471
8/17/86	5345	2.673	211.5	565.34		
8/17/86	1485	.743	78.1	58.03		
11/20/88	11644	5.822	190.7	1110.26	52.6	6125
12/14/88	11593	5.797	100.6	583.18	27.	3130
2/20/89		6.8	224.		37.	
6/4/89		4.5	297.8		52.	
6/4/89		2.2	167.1		32.5	

The foregoing is a copy of the record of shipments which we obtained from Mr. Daft's photostatic copies. Reliable sources have informed us that the foregoing is but a portion of shipments made but the figures for total production are not available to us.

From Personal Communication
By Willard P. Fuller, Jr.

Eureka, Utah
November 5, 1947

Mr. Heber Comer,
Ketchum,
Idaho.

Dear Mr. Comer:

I was pleased to receive your letter of October 20th, and since then have given considerable thought to how your questions might best be answered.....

In regard to the Parker Mine, there might be several ways of making your proposed connection. (1) Drift south as shown for approximately 75 feet, and raise to that level, about 115 feet vertically. (2) Drift 175 feet southerly as shown, and raise to the winze, about 85 feet vertically. (3) Or drift to point (3) and raise 115 feet vertically. (4) Drift to point (4) and raise 85 feet to the old level. I would favor method (2), as you would be in a better position to use the winze for working below that level, and as that level has a drift out to the east that might warrant more work if geological mapping should indicate that. .....

I would strongly recommend a transit survey, from the proposed drift, out the Montgomery tunnel, up to the Blacksmith tunnel, in and down the winze to the proposed connection. Such a survey, if properly done by a qualified mine surveyor, would certainly be worth the expense.

The proposed raise should be a two-compartment timbered raise, so that you can have a manway and a separate chute for handling much.

In the absence of geological maps of the Parker, it is difficult to recommend specific development. In general, two projects would seem to be most promising. First, to see if the vein continues eastward, toward the Hailey-Triumph area (either from the Blacksmith tunnel or a lower level), and second, to see what sort of a fault cut off the bottom of the ore, and if a solution of the fault displacement might reveal a continuation of the original ore shoot.

There is a possibility that some of the International field geologists might get up to Hailey next spring. If the Parker mine were opened upat that time to permit mapping of the more important of the old workings, it is possible that the company might be able to do this mapping for you. I would suggest that next spring you write to Mr. M. B. Kildale, Chief Geologist, International Smelting & Refining Co., stating the accessibility of the Parker workings, and ask if there is a chance that the company might do some geological mapping, to assist you in future development.

Sincerely yours,

(Signed) Willard P. Fuller, Jr."

Sept. 8, 1948

Dear Mr. Comer:

I was glad to receive your letter, and particularly interested to know that you were working in the raise, to connect the Montgomery tunnel with the upper Parker workings. As I remember, we thought that by raising 10 to 15 feet, and by fanning out longholes from the upper walls of the raise, a connection would be made. The best estimate possible from the available information indicated that the workings of Level No. 5 would lie from 30 to 40 feet above the track level of the Montgomery tunnel, but this is just a guess. According to the map, the No. 5 level would lie about 10 feet SW of the raise. It might be a good idea to run a sublevel at 30 feet above the Montgomery track level for 20 feet SW, then at a point 15 feet from the wall of the raise, drill long holes up, down, and at angles of, say plus and minus 60, on the NW and SE sides of the sublevel crosscut. .....

(Signed) W. P. Fuller, Jr."

THE EXPLORATION

20. Lead. Associated minerals are silver, gold, copper.

21. The applicant proposes to diamond drill the beds and the lime formation in the Parker mine from the Montgomery tunnel level, and attempt to locate the continuation of the old Parker ore shoot, as well as open up new shoots of ore, both high grade and milling.

It is believed that the diamond drilling program can be completed in six months.

After completion of the diamond drilling program, and the location of the ore shoots is determined, we would like to drive a lower tunnel, if it is deemed feasible, and develop the property from that level, and at that time work out a development and milling program.

22. Reference is made to Bulletin #90 and Bulletin #814, excerpts from which are attached to Question 16.

A geological map of the Montgomery tunnel is being prepared but it will not be completed in time to include in this application.

Map of underground workings is attached.

THE REQUIREMENTS AND COSTS

23.

(a)	1 Diamond Driller - 150 days @ $13 per day	$1950.00	
	1 D. D. Helper 150 " " $12 " "	1800.00	
	1 Compressor Man 150 " " $12 " "	1800.00	
			$5550.00
(b)	1 Supt.-Mgr. 6 mo. @ $400 per mo.		2400.00
(c)	None		
(d)	None		
(e)	1 Diamond Drill	$2500.00	
	1000' fiber air hose	500.00	
	1 Used Air Blower and 1200' air vent pipe	1200.00	
			4200.00
(f)	None		
(g)	Six months @ $800.00 per month		4800.00
(h)	Gas, oil, miscl. - six months		1500.00
(i)	None		
	Total		$18450.00

24. The foregoing estimate is based upon six months operations.

Estimated diamond drilling is 10,000 feet, an average of 1500 feet per month.

Estimated average monthly expenditure $3075.00.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
So. 157 Howard Street
Spokane 8, Washington

June 5, 1951

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

Dear Mr. Strobel:

Enclosed herewith is an application for an exploration loan submitted by the Parker Mining Company, Blaine County, Idaho. The application is postmarked Ketchum, Idaho, May 28, 1951. It was, therefore, enroute to this office prior to the May 31 deadline.

The Parker Mining Company previously submitted an application to the DMA for a production loan on the property in question. As a result of this application a DMA Examination Team visited the property in April, 1951 and prepared a memorandum that was forwarded to DMA in Washington, D. C., on April 20, 1951. At the time of the visit, the applicant informed the examination team that he would submit an application for an exploration loan at a later date.

Inasmuch as the present application is rather indefinite as to the proposed exploration program, its attendant costs, and who will manage and direct the operation, one copy of the application is being retained at this office. We will contact the applicant and obtain more information on these problems.

Yours very truly,

Thor H. Kiilsgaard

Thor H. Kiilsgaard
For: A. E. Weissenborn
Executive Officer, DMA
Field Team, Region II

Enclosures

cc: U.S.B.M.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 8 - 1951
LANDON F. STROBEL
Executive Secretary

JUN 1 - 1951

Mr. George

HEBER COMER
P. O. BOX ~~226~~ 938
KETCHUM, IDAHO

June 2, 1951

Mr. Tom Lyons, Director
Supply Division,
U. S. Department of the Interior
Defense Minerals Administration,
Washington 25, D.C.

Re: Docket DMA-324

Dear Mr. Lyons:

Under date of May 28, 1951, I mailed to Mr. A. E. Weissenborn, Executive Officer, DMA, Spokane, Washington, application form MF-103, in accordance with instructions of Mr. Thor Kiilsgaard of that Department.

Mr. Kiilsgard visited the Parker mine in April and I explained to him my idea in diamond drilling the property.

For your information, I have a geological map, partially completed, by Mr. Willard Fuller, now with the Anaconda Company in Butte, which was sent to me by Mr. M. B. Kildale, and it is this geological map that we will use in working out our diamond drilling of the property from the Montgomery tunnel level. Mr. Kildale advises me that Mr. Fuller will probably visit us again this season and possibly do some more work for us.

I trust that the application as filed gives you the required information.

Very truly yours,

Heber Comer

Manager,
Parker Mining Company, Inc.

HC/c

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 5 1951
LANDON F. STROBEL
Executive Secretary

JUN 1951

Wm. Herres

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

April 20, 1951

Mr. L. F. Strobel
Executive Secretary
Defense Minerals Administration
Washington 25, D. C.

Dear Mr. Strobel:

Enclosed is a memo from the Field Team, Region II, referring to the application of the Parker Mining Company, Blaine County, Idaho, docket DMA-324. Will you please see that this memo together with the attached memo from Kiilsgaard and Quinlan of the Geological Survey and Magill of the Bureau of Mines, also in quadruplicate, is forwarded to the Lead-Zinc Branch.

Sincerely yours,

A. E. Weissenborn

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

Enclosures

cc: G.C. Reed

MAY 1 1951

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

April 20, 1951

Memorandum

To: Lead-Zinc Branch, Defense Minerals Administration

From: Field Team, Region II

Subject: Docket DMA-324, Application of Parker Mining Company, Blaine County, Idaho.

Enclosed is a memo from a USBM-USGS examining team relative to the Parker Mining Company, Blaine County, Idaho.

According to this memo a worthwhile exploration program could be worked out for the property, but before entering into an exploration contract the DMA should assure itself that the operation of the contract will be in energetic and experienced hands. Inasmuch as no formal application has yet been made, nor has the company made any decision as to whether it would care to enter into an exploration contract, no formal recommendation is now made by the Field Team. However, it is believed that enough information is now at hand so that an immediate decision could be reached should the company actually make an application.

By Field Team, Region II

A. E. Weissenborn

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

Glenn Reed

Glenn Reed
For: M. E. Volin, Chief, Min. Div.
Region II, U. S. Bureau of Mines

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

So. 157 Howard Street
Spokane, Washington

April 20, 1951

Memorandum

To: Lead-Zinc Branch, Defense Minerals Administration

From: Field Team, Region II

Subject: Docket DMA-324, Application of Parker Mining Company, Blaine County, Idaho.

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By Field Team, Region II

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

Glenn Reed
For: M. E. Volin, Chief, Min. Div.
Region II, U. S. Bureau of Mines

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

So. 157 Howard Street
Spokane, Washington

April 20, 1951

Memorandum

To: Lead-Zinc Branch, Defense Minerals Administration

From: Field Team, Region II

Subject: Docket [illegible]-324, Application of Parker Mining Company, Blaine County, Idaho.

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By Field Team, Region II

A. E. Meissenborn, Exec. Officer
U. S. Geological Survey

Glenn Reed
For: M. E. Volin, Chief, Min. Div.
Region II, U. S. Bureau of Mines

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
So. 157 Howard Street
Spokane 8, Washington

April 23, 1951

Memorandum

To: Executive Officer, Field Team, Region II

From: Thor Kiilsgaard and James Quinlan, USGS, and E. A. Magill, USBM.

Subject: Docket DMA 324, Application of Parker Mining Co., Blaine Co., Idaho.

On April 17, 1951 the USBM-USGS examining team visited Mr. Heber Comer, manager of the Parker Mining Company at his property in Parker Gulch, 6.7 miles east of Ketchum, Idaho. The purpose of the visit was to explain the recently announced DMA exploration program to Mr. Comer, and to secure additional information on the Parker Mining Company.

Following the discussion, Mr. Comer stated that he favored entering into an exploration contract with the DMA on a matching-fund basis, but that he would have to await a forthcoming meeting of the company board of directors before he could be assured of funds to contribute to the company's share of an exploration contract. He further stated that if the board of directors favored entering into a matching-sum exploration program that they, the board, would agree on the sum of funds requested and also upon a target for exploration.

No attempt was made to map the geology of the property inasmuch as it is described in detail in the Idaho Bureau of Mines and Geology, Pamphlet No. 90: Detailed Geology of Certain Areas in the Mineral Hill and Warm Springs Mining Districts, Blaine County, Idaho, by A. L. Anderson, T. H. Kiilsgaard, and V. C. Fryklund. The geology of the area is also described in USGS Bull. 814; Geology and Ore Deposits of the Wood River Region, Idaho, by J. B. Umpleby, et. al.

The Parker mine was operated during the 1880's, and records show that it produced from the upper workings 1,552 tons of ore which contained 300,236 ounces of silver and 1,106,463 pounds of lead. With depth, the ore terminated against a strong fault and production ceased.

Numerous workings, including the long Montgomery adit, have been advanced into the lower areas in attempts to find the Parker ore body beyond the fault, but these attempts have been unsuccessful. There is no ore in sight in the mine workings at the present time.

The composite map of the Parker mine (Fig. 19), shown in the Idaho Bureau of Mines and Geology Pamphlet No. 90, was compiled by Thor Kiilsgaard, one of the members of the examining team that visited the Parker property. It is Kiilsgaard's belief that the St. Louis vein, in the southwestern part of the property, is the faulted continuation of the Parker vein. For his report, Kiilsgaard recommended further exploration of the St. Louis vein.

Mr. Comer, manager and owner of 51 percent of the stock of the Parker Mining Company, has been in the Hailey district for at least 15 years and throughout that time has been interested in mining operations. However, the field team was unable to find any evidence of Comer having shipped or produced any amount of ore in that time. Moreover, new development in the Parker mine holdings in the past 2½ years consists of about 5 feet of raising, which suggests a rather aimless attitude inasfar as mine development is concerned. Mr. Comer is an honest and friendly man of somewhat advanced age, but the field team doubts whether he is experienced enough in mine management to operate an active operation or is capable of initiating and supervising a successful exploration program.

A list of the equipment owned by the Parker Mining Company is attached.

List of equipment owned by Parker Mining Company, April 17, 1951.

2 each Compressors, 105' Schramm gasoline driven (new in 1946)

Hoist, one ton Sullivan air tugger

Stoper, Thor (new)

Drifter, Sullivan (old)

Jackhammer, Ingersol Rand with shell and bars

2,000 ft. Rail

1,500 ft. Pipe

200 ft. Air hose

Mine cars

Truck, 4-wheel drive 1½ ton capacity

Cabin, 4 rooms furnished

Tool shed

Compressor shed

Miscellaneous hand tools

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

So. 157 Howard Street
Spokane 8, Washington

April 23, 1951

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Cabin, 4 rooms furnished

Tool shed

Compressor shed

Miscellaneous hand tools

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

So. 157 Howard Street
Spokane 8, Washington

April 27, 1951

Memorandum

To: Executive Officer, Field Team, Region II

From: Thor Kiilsgaard and James Quinlan, USGS, and E. A. Magill, USBM.

Subject: Docket DMA 324, Application of Parker Mining Co., Blaine Co., Idaho.

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Cabin, 4 rooms furnished

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Compressor shed

Miscellaneous hand tools

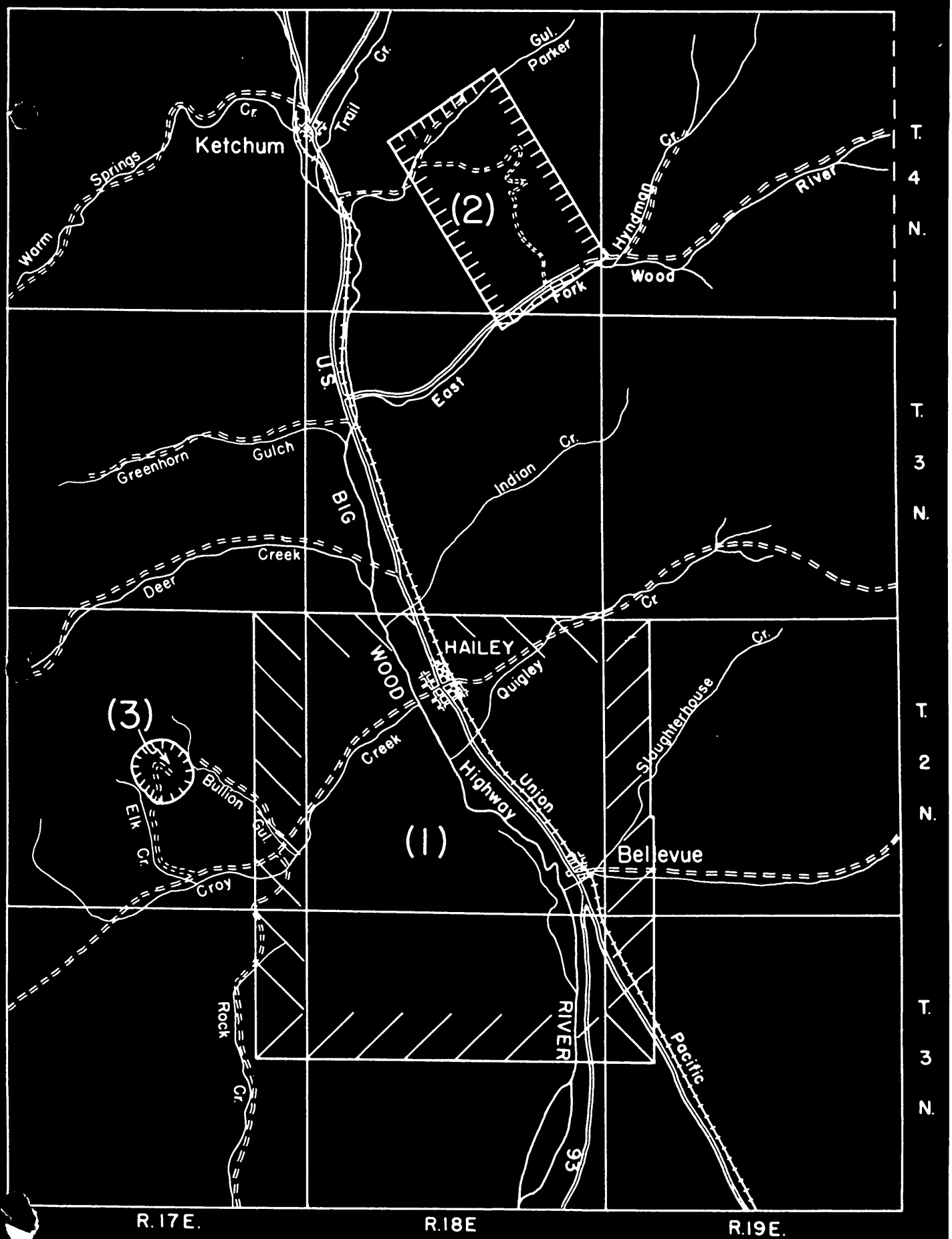


Fig. 1 Index Map showing location of Hailey—Bellevue Mineral belt (1), Triumph—Parker Mine Mineral belt (2), and Mayflower—Red Elephant area. (3).

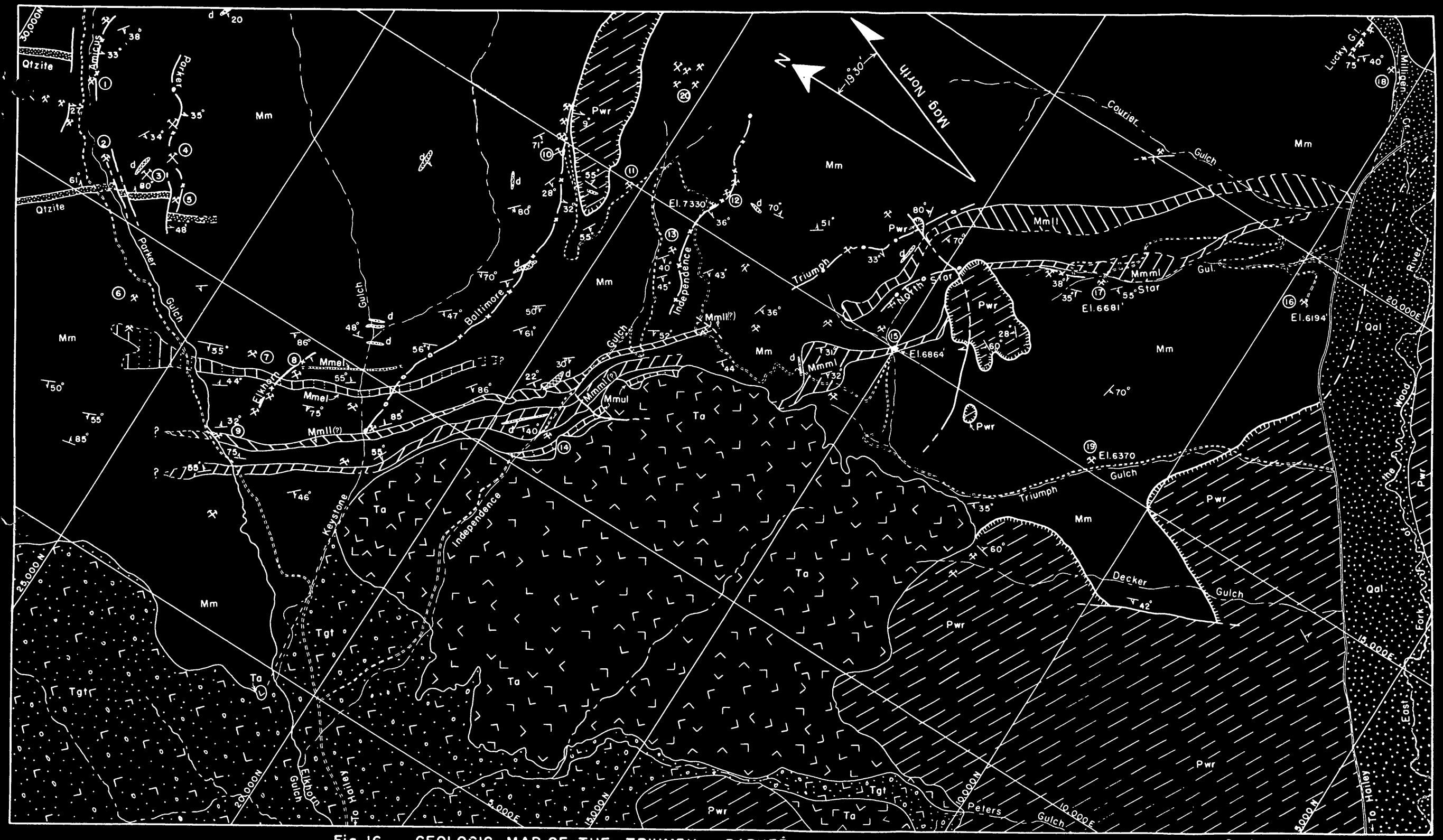


Fig. 16. GEOLOGIC MAP OF THE TRIUMPH — PARKER MINE MINERAL BELT

Geology by T.H. Kiilsgaard

1700 0 1700 3400 5100 feet

EXPLANATION

SEDIMENTARY ROCKS

Qal — Recent
Terrace gravel & alluvium

Tgt — Miocene?
Gravel & tuff

UNCONFORMITY

Pwr — Penn.
Wood River formation

Milligen formation

UNCONFORMITY

Mmul — Upper limestone
Mmml — Middle limestone
Mmll — Lower limestone
Mmel — Elkhorn limestones

Mississippian

Mm — Undifferentiated Milligen formation

IGNEOUS ROCKS

Ta — Miocene ?
Andesite

d — Miocene ?
Dikes

Vein outcrop

Inferred vein outcrop

Fault

overthrust side
Thrust fault

Concealed contact

Intermittent stream

Unimproved road

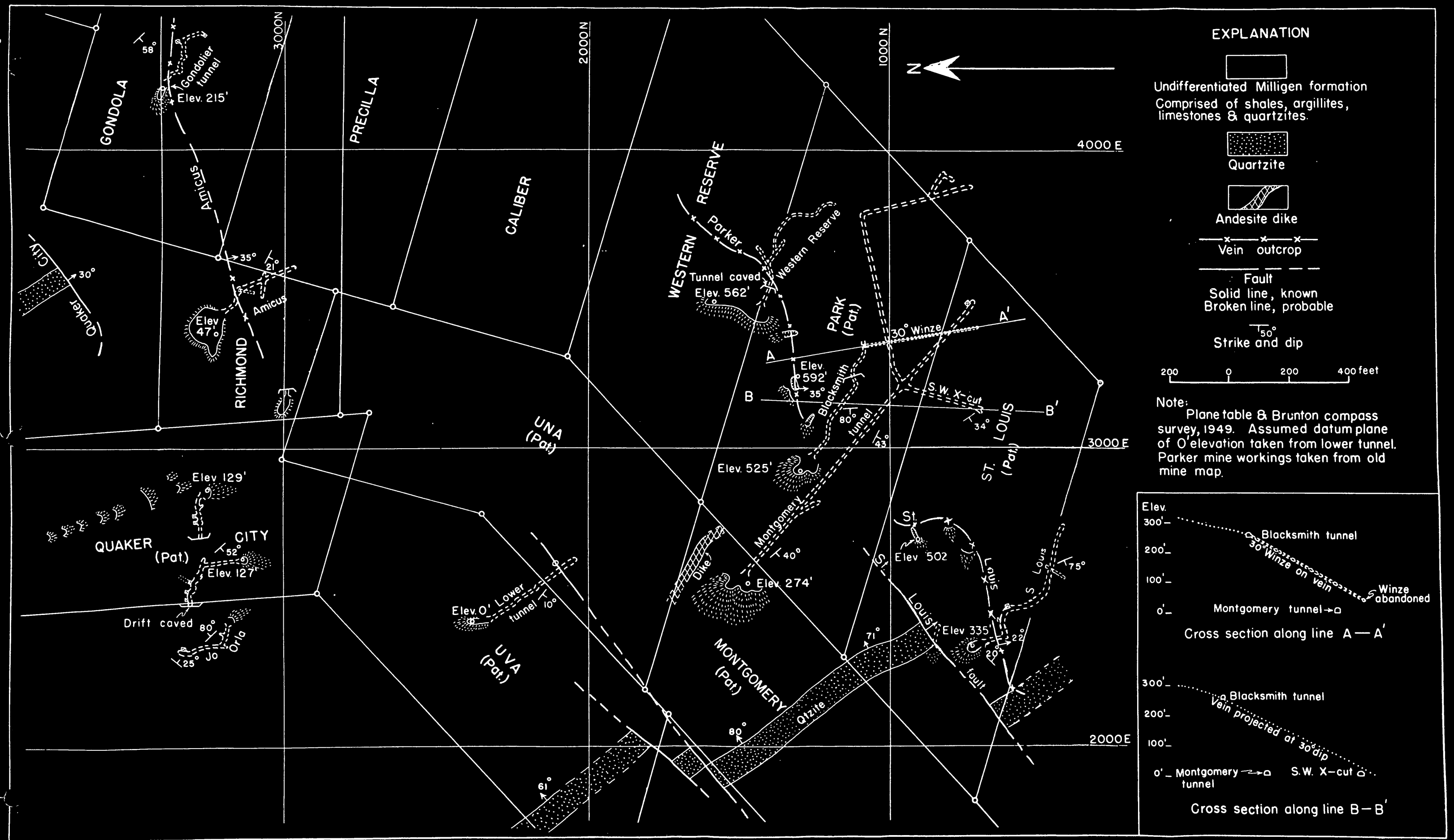
Strike & dip

Mines & prospects

MINING PROPERTIES

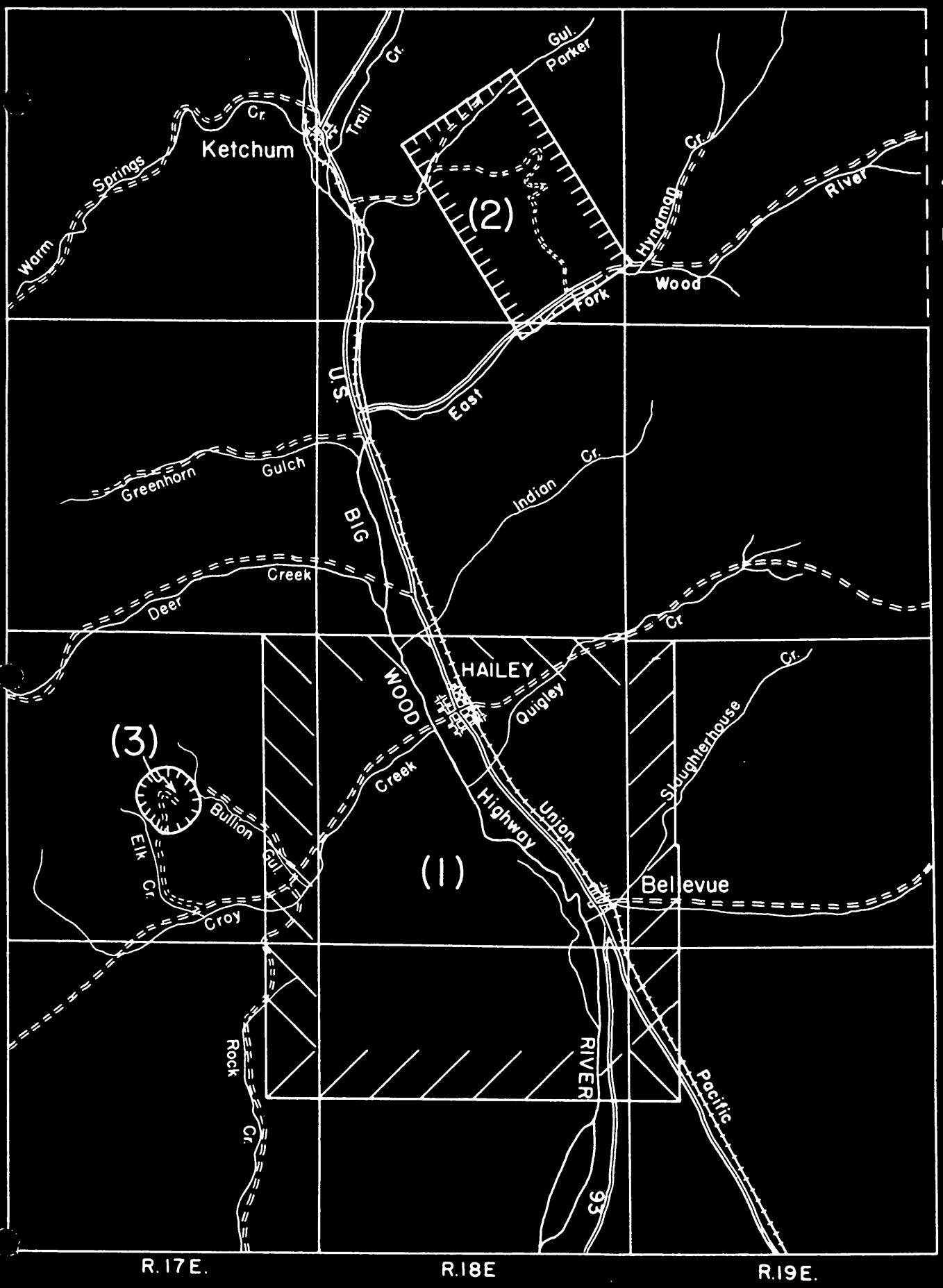
1 Amicus
2 Lower Parker
3 Montgomery
4 Blacksmith
5 St. Louis
6 Bald Eagle
7 Silver Cord
8 Elkhorn
9 June Day
10 Baltimore tunnels
11 Bonanza tunnel
12 Independence adits
13 Ida Harlan
14 Lucky Coin
15 Triumph Shaft
16 Triumph tunnel
17 Plummer tunnel (North Star)
18 Lucky G. I.
19 Challenger tunnel
20 Malta group

Note: Geology compiled on aerial photographs, controlled by a triangulated base map.



Geology by T.H. Kiilsgaard

Fig. 19. Map showing Parker, Quaker City, and Jo Orla mine workings and relative positions of the Principle Geologic Structures



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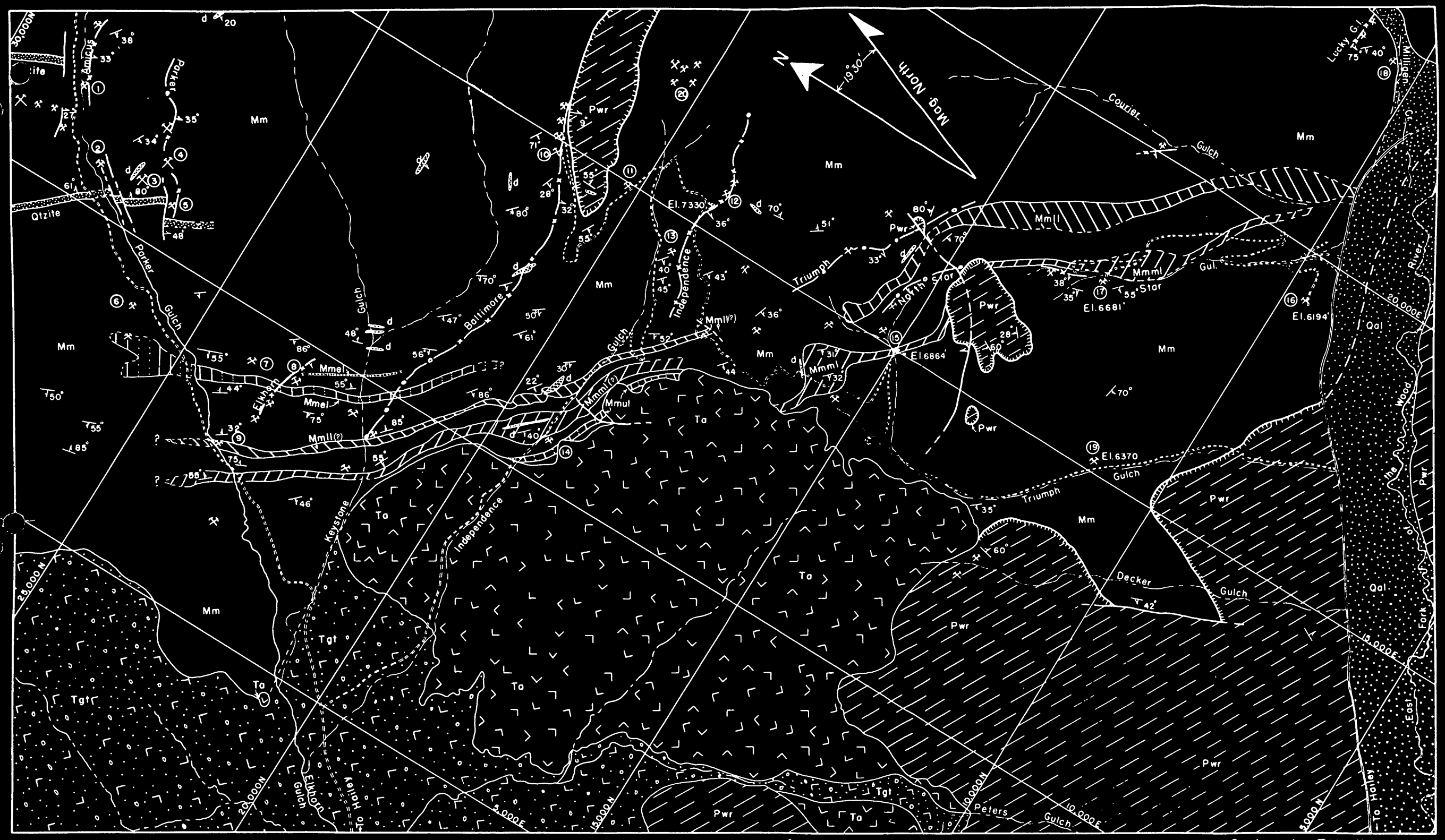
1 0 1 2 miles

1949



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UNCONFORMITY

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Mississippian

Mm — Undifferentiated Milligen formation

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Andesite

d — Miocene ?
Dikes

Vein outcrop

Inferred vein outcrop

Fault

Overthrust side

Thrust fault

Concealed contact

Intermittent stream

Unimproved road

Strike & dip

Mines & prospects

MINING PROPERTIES

1 Amicus
2 Lower Parker
3 Montgomery
4 Blacksmith
5 St. Louis
6 Bald Eagle
7 Silver Cord
8 Elkhorn
9 June Day
10 Baltimore tunnels
11 Bonanza tunnel
12 Independence adits
13 Ida Harlan
14 Lucky Coin
15 Triumph Shaft
16 Triumph tunnel
17 Plummer tunnel (North Star)
18 Lucky G. I.
19 Challenger tunnel
20 Malta group

Note: Geology compiled on aerial photographs, controlled by a triangulated base map.

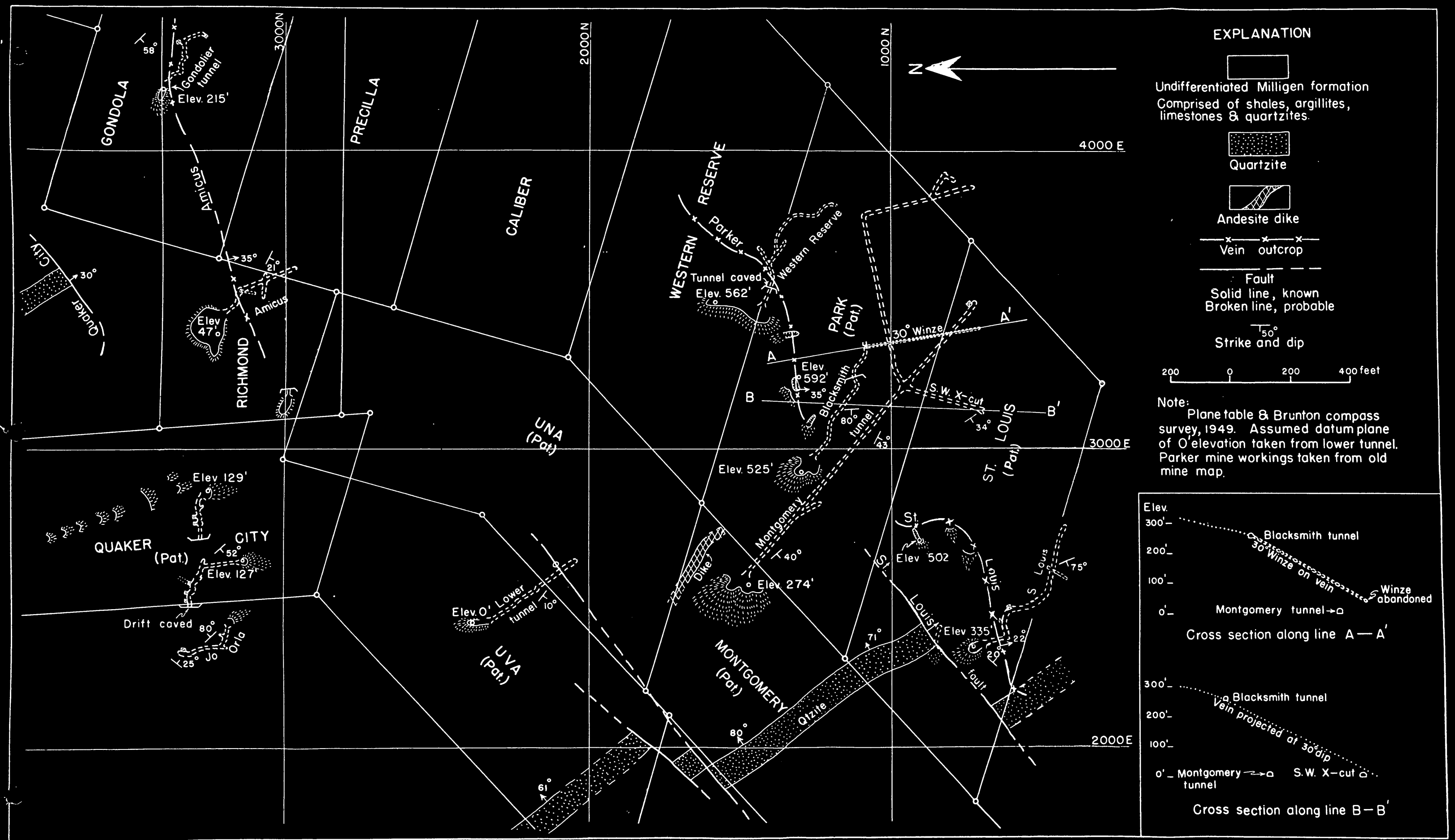

Fig. 19. Map showing Parker, Quaker City, and Jo Orla mine workings and relative positions of the Principle Geologic Structures

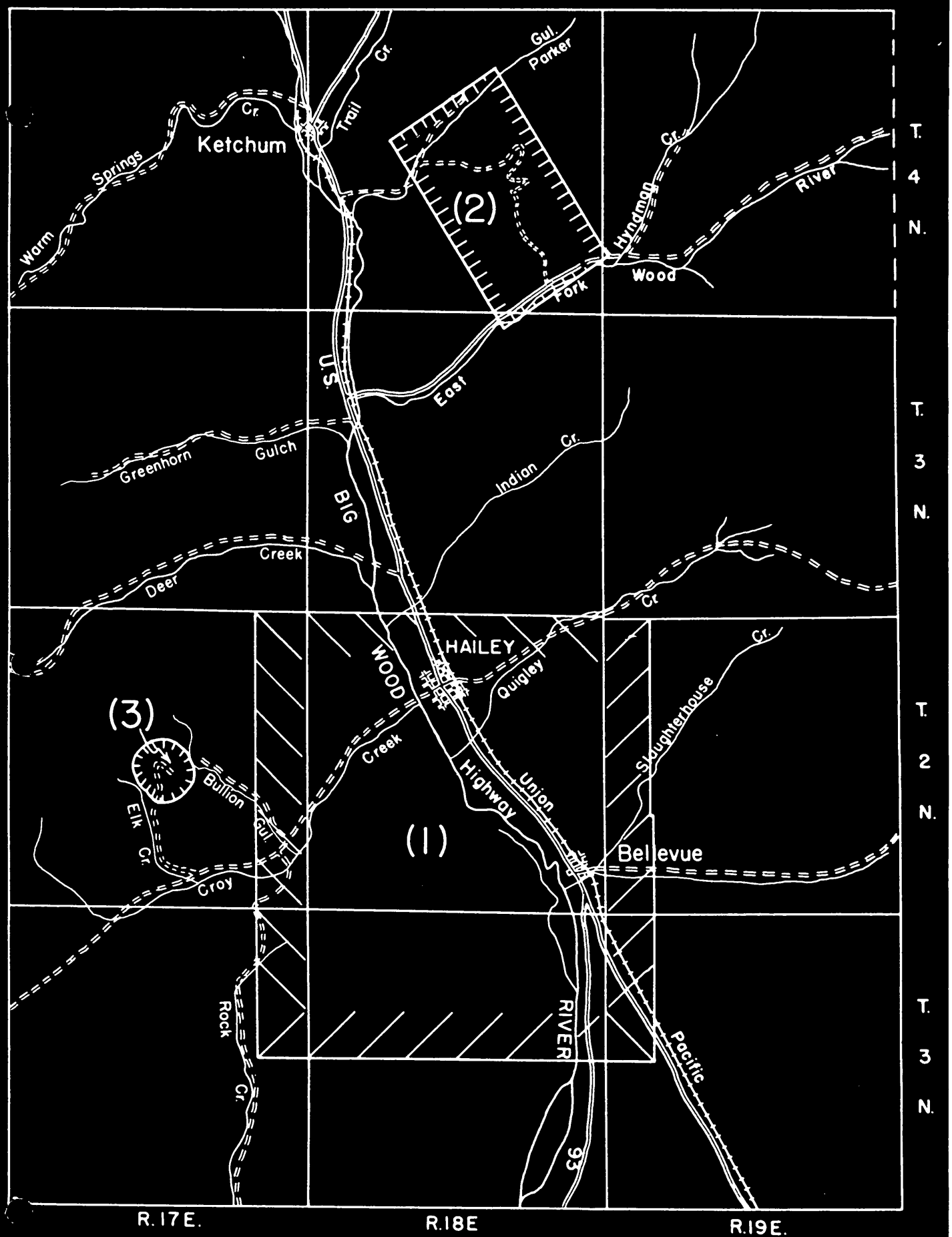

Fig. 1 Index Map showing location of Hailey—Bellevue Mineral belt (1), Triumph—Parker Mine Mineral belt (2), and Mayflower—Red Elephant area. (3).

1 0 1 2 miles

1949

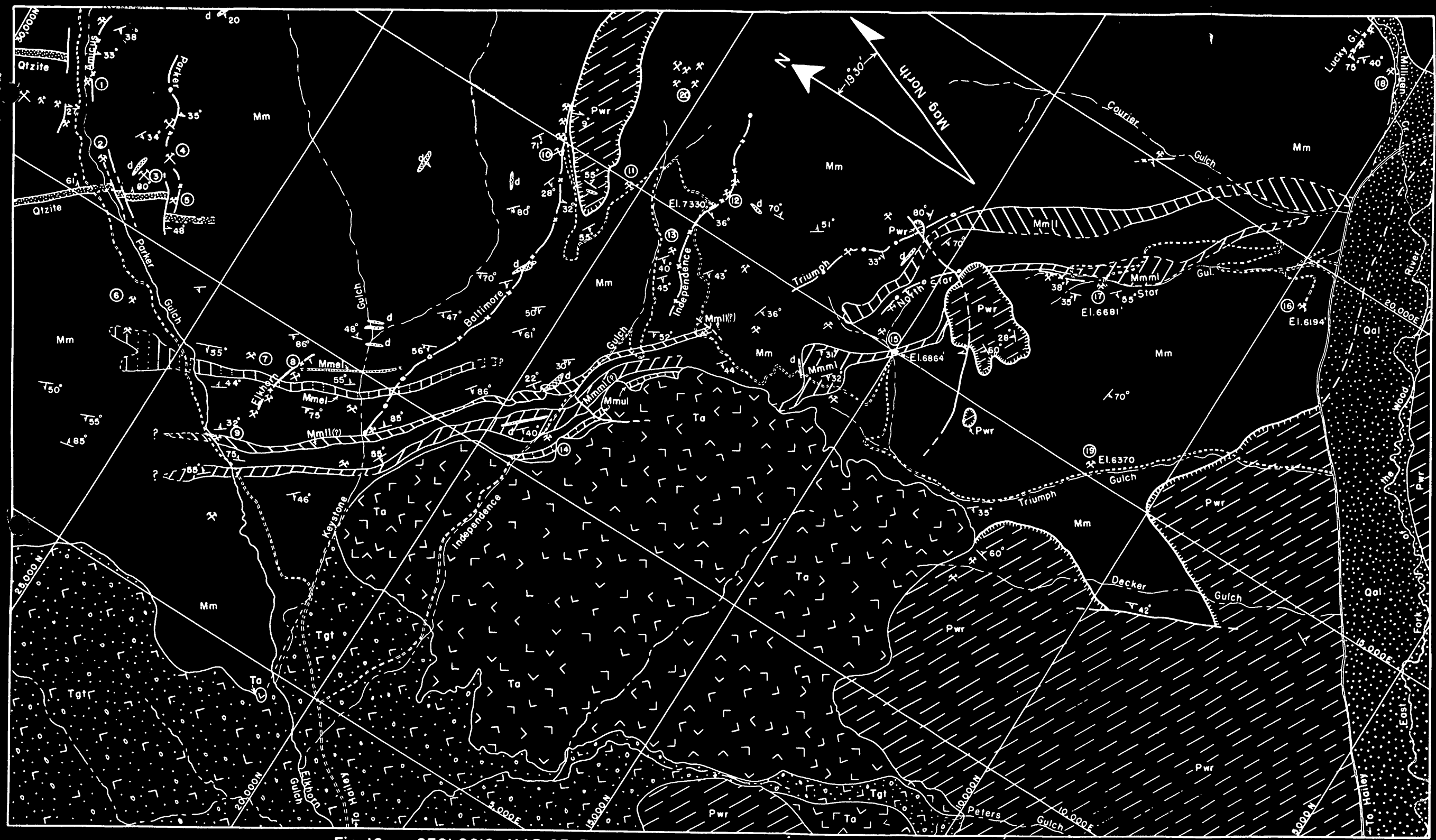

Fig. 16. GEOLOGIC MAP OF THE TRIUMPH — PARKER MINE MINERAL BELT

1700 0 1700 3400 5100 feet

Geology by T.H. Kiilsgaard

EXPLANATION

SEDIMENTARY ROCKS

- Qal — Recent — Terrace gravel & alluvium
- Tgt — Miocene? — Gravel & tuff

UNCONFORMITY

- Pwr — Penn. — Wood River formation

UNCONFORMITY

Milligen formation:

- Mmul — Upper limestone
- Mmml — Middle limestone
- Mmll — Lower limestone
- Mmel — Elkhorn limestones

Mississippian:

- Mm — Undifferentiated Milligen formation

IGNEOUS ROCKS

- Ta — Miocene? — Andesite
- d — Miocene? — Dikes

Vein outcrop

Inferred vein outcrop

Fault

overthrust side — Thrust fault

Concealed contact

Intermittent stream

Unimproved road

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MINING PROPERTIES

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16 Triumph tunnel
17 Plummer tunnel (North Star)
18 Lucky G. I.
19 Challenger tunnel
20 Malta group

Note: Geology compiled on aerial photographs, controlled by a triangulated base map.

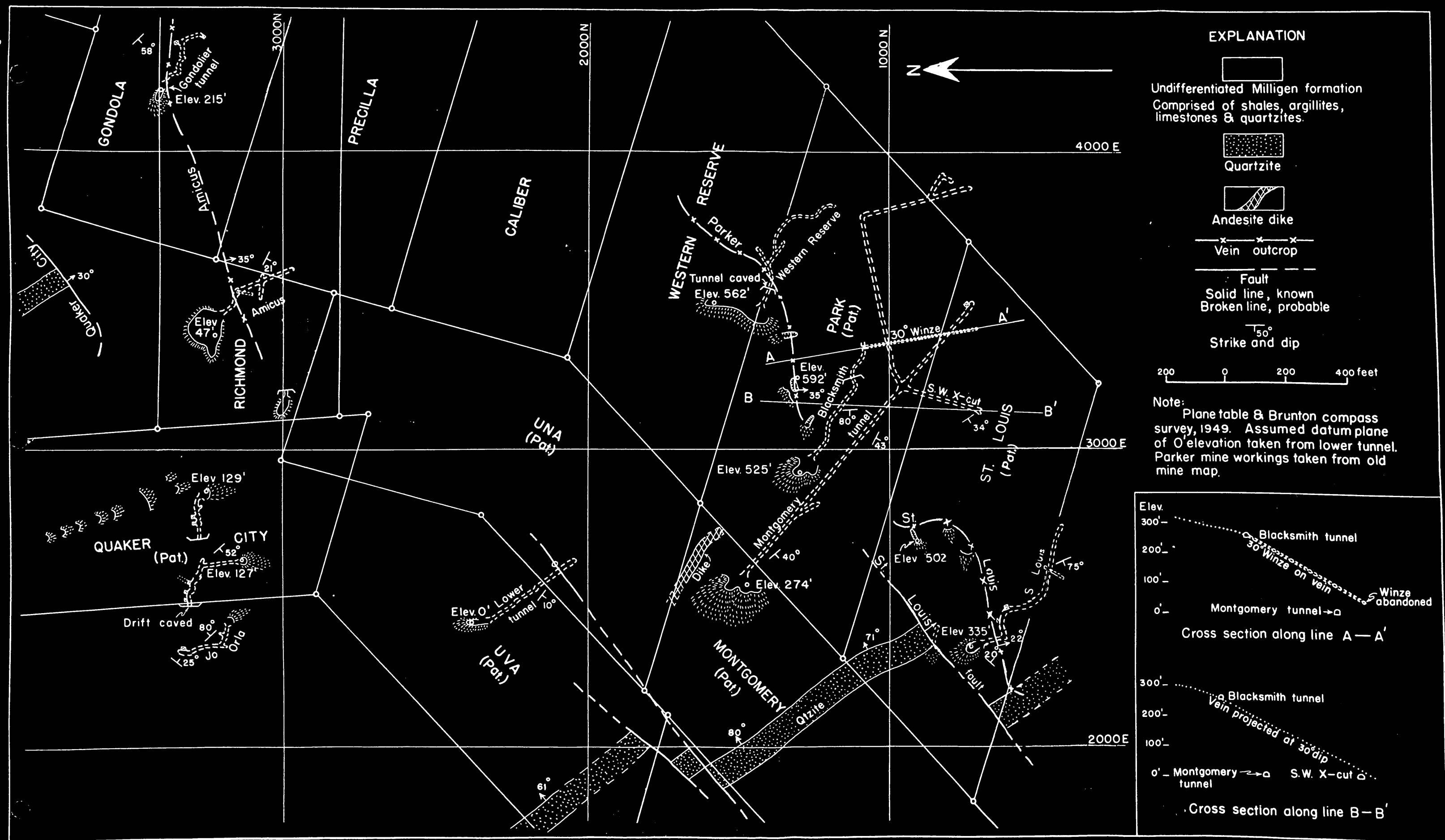

Fig. 19. Map showing Parker, Quaker City, and Jo Orla mine workings and relative positions of the Principle Geologic Structures

Geology by T.H. Kiilsgaard

COPY

Ketchum, Idaho
October 5, 1951

Mr. A. E. Weissenborn
Executive Officer, DMA
Field Team, Region II
Department of the Interior
So. 157 Howard Street
Spokane, Washington

Attention: Mr. Thor W. Viilsgaard
Re: Parker Mine-D A Docket #324

Dear Sir:

As requested in your letter of August 1st, we are submitting the following data pertaining to exploration loan on the Parker Mine:

1. Enclosed is copy of the Montgomery level on which Mr. O. T. Hansen, Mining Engineer, has plotted the position and extent of the proposed diamond drill holes.

2. I note that Mr. Hansen has spotted holes covering more footage than you believe can be drilled under our program. Since the company will be doing this work, and not contracting it, he believes we should be able to get from 6000 to 7000 feet of hole. However, if you think we are still too high on this footage, we can decrease it.

3. The location of the proposed development tunnel, on the Company's ground, contingent upon the results of the diamond drilling, is in the vicinity of 10,000 E and 33,000 N, reference being made to Map, Fig. 16 in our application.

4. As you suggest, we will employ an engineer during our diamond drilling of the Parker property.

Inasmuch as wages for a diamond driller, as well as for a helper and compressor man, have increased since the filing of our original application, and an engineer was not specified therein, we believe Page 39 of our application covering "The Requirements and Costs" should be amended to show this increase in cost.

The amendment of Page 38 would be as follows:

23.	(a)	1 Diamond Driller 150 days @ 16.00		2400.	
		1 D.D. Helper " " 13.00		1950.	
		1 Compressor man " " 13.00		1950.	
					6300.
	(b)	Engineering - 6 months			2000.
		1 Supt-Drr. 6 mo. @ $400			2400.
	(c)	None			
	(d)	None			
	(e)	1 Diamond Drill	$2500.		
		1000' Siller air hose	500.		
		1 Used Air Blower and 1200' air vent pipe	1200.		4200.
	(f)	None			
	(g)	Six months @ $800. per mo.			4800.
	(h)	Gas, oil, miscl. six months			1500.
				Total	$21200.

I should have liked to consult with you on the matters contained herein, but since this was not possible, I trust the points covered will meet with your approval. If they do not, I would greatly appreciate any suggestions you might deem advisable to make.

May I have an acknowledgment of this letter and enclosure.

Very truly yours,

Weber Comer
President,
Parker Mining Company, Inc.

C/c
encl.

The amendment of Page 26 would be as follows:

23.	(a)	1 Diamond Driller 150 days @ 16.00		2400.	
		1 Drill Helper " " 13.00		1950.	
		1 Compressor man " " 13.00		1950.	
					6300.
	(b)	Engineering - 2 months			2000.
		1 Engineer per mo. @ 1200.			2400.
	(c)	None			
	(d)	None			
	(e)	1 Diamond Drill	2500.		
		1-1/2" fiber air hose	500.		
		1 Coal Air Blower and 12000' air vent pipe	1200.		4200.
	(f)	None			
	(g)	Six months @ 3500. per mo.			4500.
	(h)	Gas, oil, diesel, six months			1500.
				Total	21200.

I should have liked to consult with you on the matters contained herein, but since this was not possible, I trust the points covered will meet with your approval. If they do not, I would greatly appreciate any suggestions you might deem advisable to make.

May I have an acknowledgment of this letter and enclosure.

Very truly yours,

Oliver Homer
President,
Parker Mining Company, Inc.

O/H
encl.

COPY

Ketchum, Idaho
October 6, 1951

Mr. A. M. Eisenhorn
Executive Officer, DMA
Field Team, Region 32
Department of the Interior
So. 157 Howard Street
Spokane, Washington

Attention: Mr. Thor H. Hillsgaard
Re: Parker Mine-DMA Docket 324

Dear Sir:

As requested in your letter of August 1st, we are submitting the following data pertaining to exploration loan on the Parker Mine:

1. Enclosed is copy of the Montgomery level on which Mr. C. T. Hansen, Mining Engineer, has located the position and extent of the proposed diamond drill holes.

2. I note that Mr. Hansen has spotted holes covering more footage than you believe can be drilled under our program. Since the company will be doing this work, and not contracting it, he believes we should be able to get from 6000 to 7000 feet of hole. However, if you think we are still too high on this footage, we can decrease it.

3. The location of the proposed development tunnel, on the Company's ground, contingent upon the results of the diamond drilling, is in the vicinity of 10,000 N and 33,000 W, reference being made to Map, Fig. 16 in our application.

4. As you suggest, we will employ an engineer during our diamond drilling of the Parker property.

Inasmuch as wages for a diamond driller, as well as for a helper and compressor man, have increased since the filing of our original application, and an engineer was not specified therein, we believe Page 30 of our application covering "Mine Requirements and Costs" should be amended to allow this increase in cost.

Ketchum, Idaho
October 5, 1951

Mr. A. E. Weissenborn,
Executive Officer, DMA
Field Team, Region II,
Department of the Interior,
So. 157 Howard Street,
Spokane, Washington.

Attention:Mr.Thor H. Kiilsgaard.
Re: Parker Mine-DMA Docket #324.

Dear Sir:

As requested in your letter of August 1st, we are submitting the following data pertaining to exploration loan on the Parker Mine:

1. Enclosed is map of the Montgomery level on which Mr. O. T. Hansen, Mining Engineer, has plotted the position and extent of the proposed diamond drill holes.

2. I note that Mr. Hansen has spotted holes covering more footage than you believe can be drilled under our program. Since the company will be doing this work, and not contracting it, he believes we should be able to get from 6000 to 7000 feet of hole. However, if you think we are still too high on this footage, we can decrease it.

3. The location of the proposed development tunnel, on the Company's ground, contingent upon the results of the diamond drilling, is in the vicinity of 10,000 E and 33,000 N, reference being made to Map, Fig. 16 in our application.

4. As you suggest, we will employ an engineer during our diamond drilling of the Parker property.

Inasmuch as wages for a diamond driller, as well as for a helper and compressor man, have increased since the filing of our original application, and an engineer was not specified therein, we believe Page 39 of our application covering "The Requirements and Costs" should be amended to show this increase in cost.

The amendment of Page 39 would be as follows:

23.	(a)	1 Diamond Driller 150 days @ $16.00		$2400.	
		1 D.D.Helper " " 13.00		1950.	
		1 Compressor man " " 13.00		1950.	
					$6300.
	(b)	Engineering- 6 months			2000.
		1 Supt-Mgr. 6 mo. @ $400			2400.
	(c)	None			
	(d)	None			
	(e)	1 Diamond Drill	$2500.		
		1000' fiber air hose	500.		
		1 Used Air Blower and 1200' air vent pipe	1200.		4200.
	(f)	None			
	(g)	Six months @ $800. per mo.			4800.
	(h)	Gas, oil, miscl. six months			1500,
	(i)	None			
			Total		$21200.

I should have liked to consult with you on the matters contained herein, but since this was not possible, I trust the points covered will meet with your approval. If they do not, I would greatly appreciate any suggestions you might deem advisable to make.

May I have an acknowledgment of this letter and enclosure.

Very truly yours,

Hubert Comer

President,
Parker Mining Company, Inc.

HC/c
encl

COPY

Ketchum, Idaho
October 5, 1951

Mr. A. E. Weissenborn
Executive Officer, DPA
Field Team, Region IX
Department of the Interior
Sc. 157 Howard Street
Spokane, Washington

Attention: Mr. Thor H. Hillsgaard
Re: Parker Mine-DPA Docket #324

Dear Sir:

As requested in your letter of August 1st, we are submitting the following data pertaining to exploration loan on the Parker Mine:

1. Enclosed is map of the Montgomery level on which Mr. C. T. Hansen, Mining Engineer, has plotted the position and extent of the proposed diamond drill holes.

2. I note that Mr. Hansen has spotted holes covering more footage than you believe can be drilled under our program. Since the company will be doing this work, and not contracting it, he believes we should be able to get from 6000 to 7000 feet of hole. However, if you think we are still too high on this footage, we can decrease it.

3. The location of the proposed development tunnel, on the Company's ground, contingent upon the results of the diamond drilling, is in the vicinity of 10,000 E and 33,000 N, reference being made to Map, Fig. 16 in our application.

4. As you suggest, we will employ an engineer during our diamond drilling of the Parker property.

Inasmuch as wages for a diamond driller, as well as for a helper and compressor man, have increased since the filing of our original application, and an engineer was not specified therein, we believe Page 39 of our application covering "The Requirements and Costs" should be amended to show this increase in cost.

The amendment of Page 33 would be as follows:

23.	(a)	1 Diamond Driller 180 days @ [illegible]		2400.	
		1 D.D. Helper " " 13.[illegible]		2150.	
		1 Compressor man " " 15.[illegible]		1950.	
					[illegible].
	(b)	Engineering - 3 months			2[illegible].
		1 Geologer. 8 mo. @ 3400			2400.
	(c)	None			
	(d)	None			
	(e)	1 Diamond Drill	2500.		
		1[illegible]' fiber air hose	500.		
		1 Diesel Air Tower and 1200' air vent pipe	1200.		4200.
	(f)	None			
	(g)	Six months @ [illegible]. per mo.			[illegible].
	(h)	Gas, oil, disel. six months			2500.
				Total	21200.

I should have liked to consult with you on the matters contained herein, but since this was not possible, I trust the points covered will meet with your approval. If they do not, I would greatly appreciate any suggestions you might deem advisable to make.

May I have an acknowledgment of this letter and enclosure.

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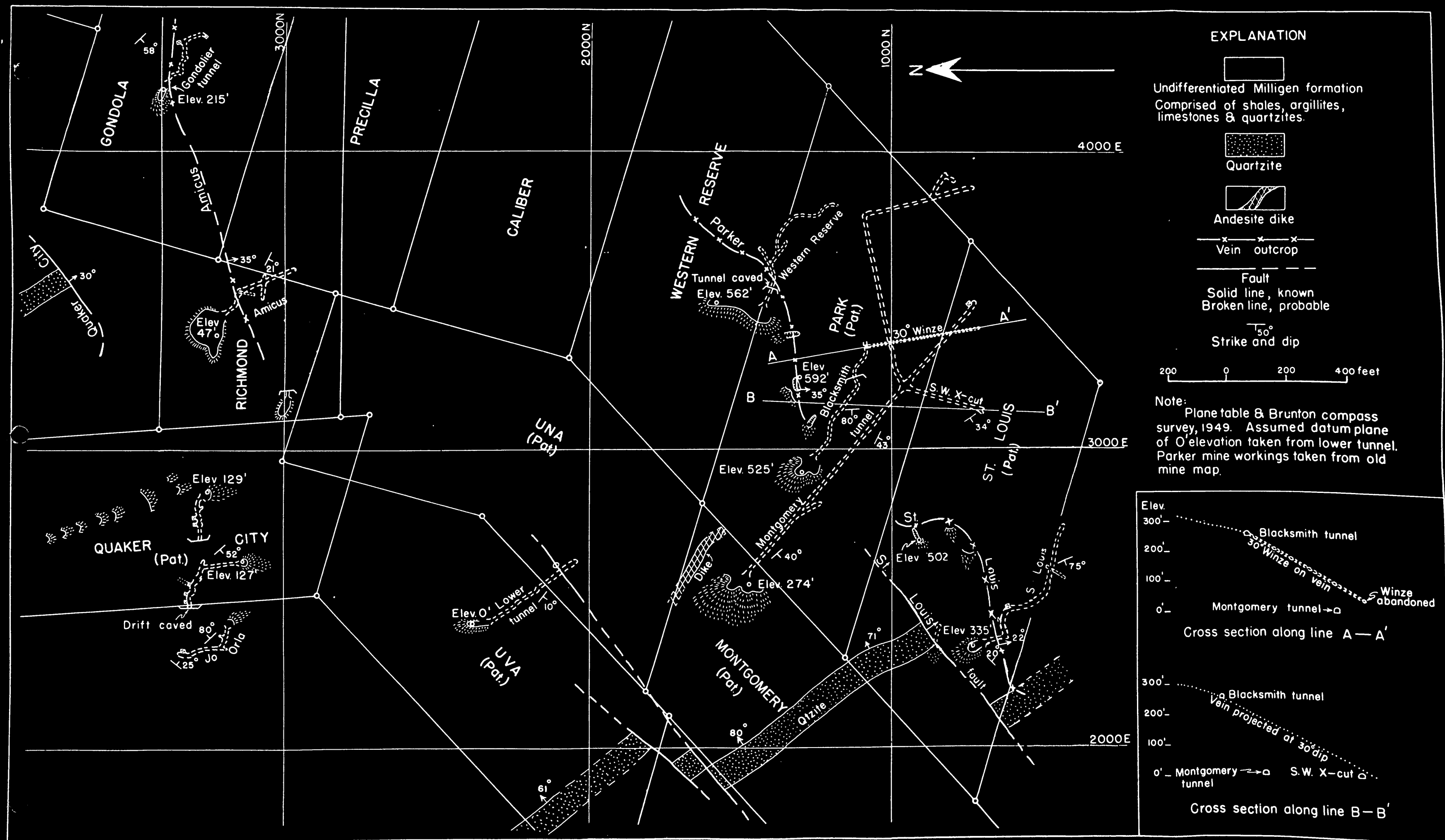
Weber Comer
President,
Parker Mining Company, Inc.

c/o
encl.



Geology by T.H. Kiilsgaard

Fig. 19. Map showing Parker, Quaker City, and Jo Orla mine workings and relative positions of the Principle Geologic Structures

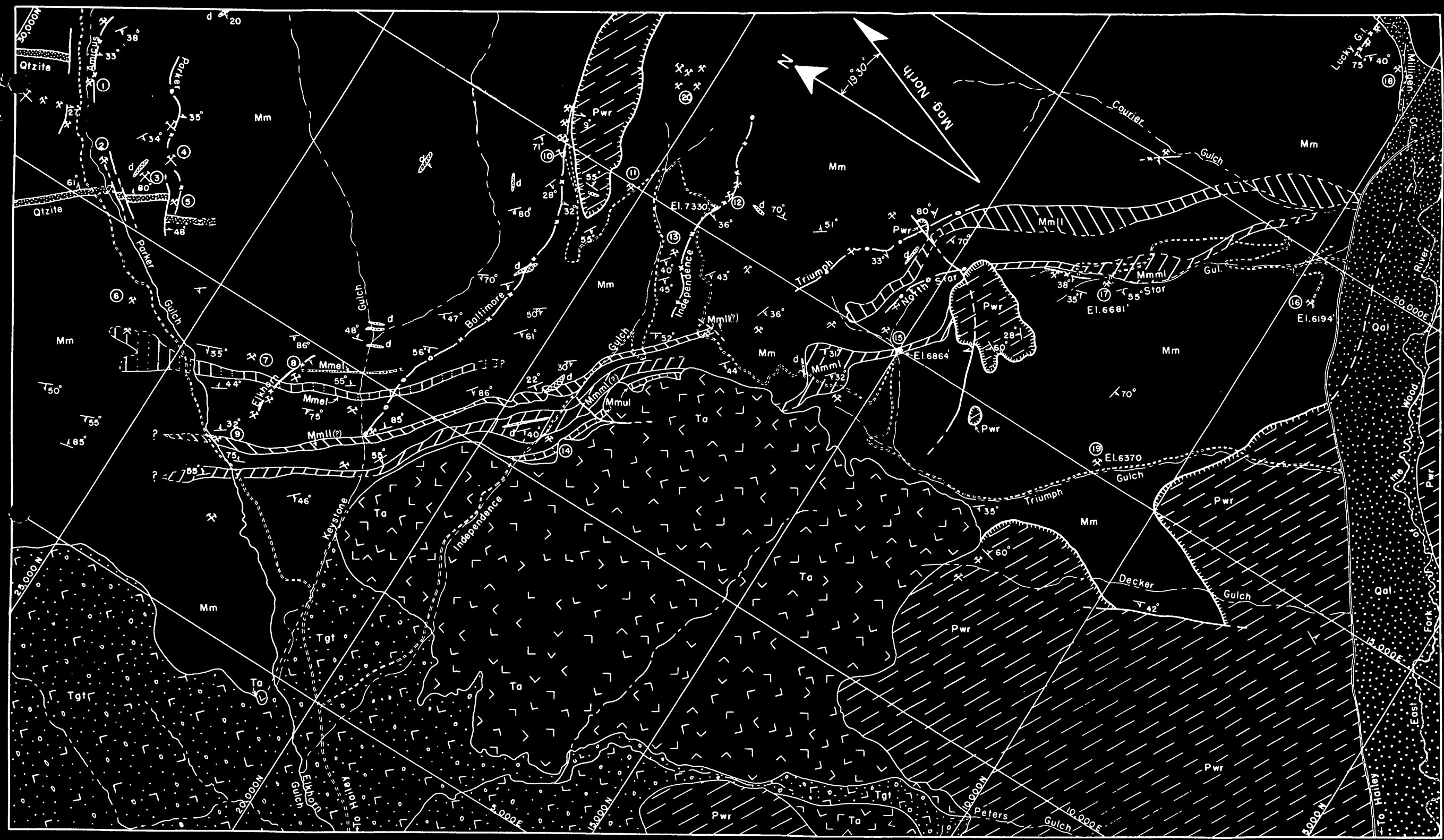


Fig. 16. GEOLOGIC MAP OF THE TRIUMPH — PARKER MINE MINERAL BELT

Geology by T.H. Kiilsgaard

1700 0 1700 3400 5100 feet

SEDIMENTARY ROCKS

- Qal — Recent — Terrace gravel & alluvium
- Tgt — Miocene? — Gravel & tuff
- UNCONFORMITY
- Pwr — Penn. — Wood River formation
- UNCONFORMITY
- Milligen formation:
  - Mmul — Upper limestone
  - Mmml — Middle limestone
  - Mmll — Lower limestone
  - Mmel — Elkhorn limestones
- Mississippian

IGNEOUS ROCKS

- Ta — Andesite — Miocene ?
- d — Dikes — Miocene ?

EXPLANATION

- Mm — Undifferentiated Milligen formation
- Vein outcrop
- Inferred vein outcrop
- Fault
- overthrust side — Thrust fault
- Concealed contact
- Intermittent stream
- Unimproved road
- Strike & dip
- Mines & prospects

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Note: Geology compiled on aerial photographs, controlled by a triangulated base map.

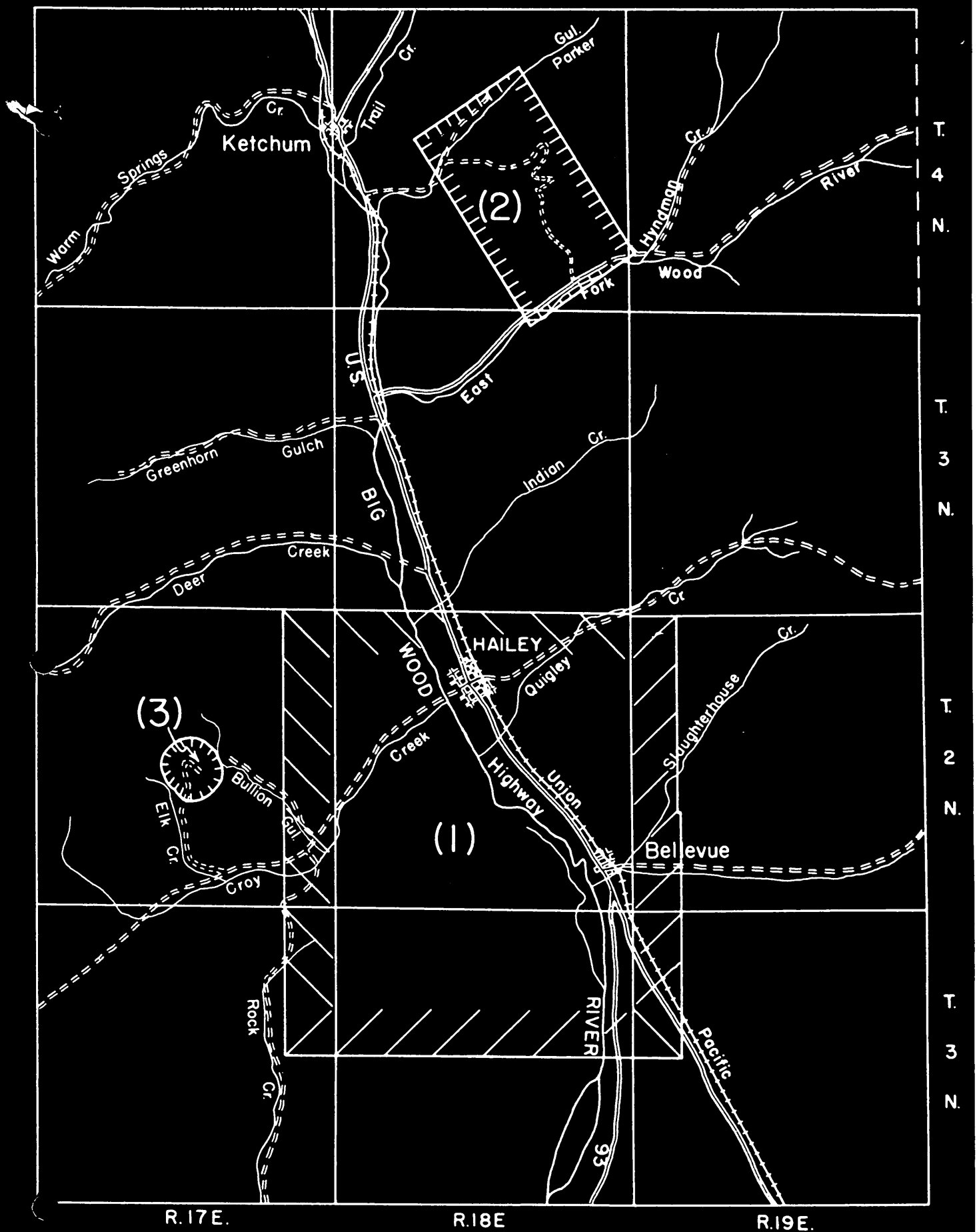
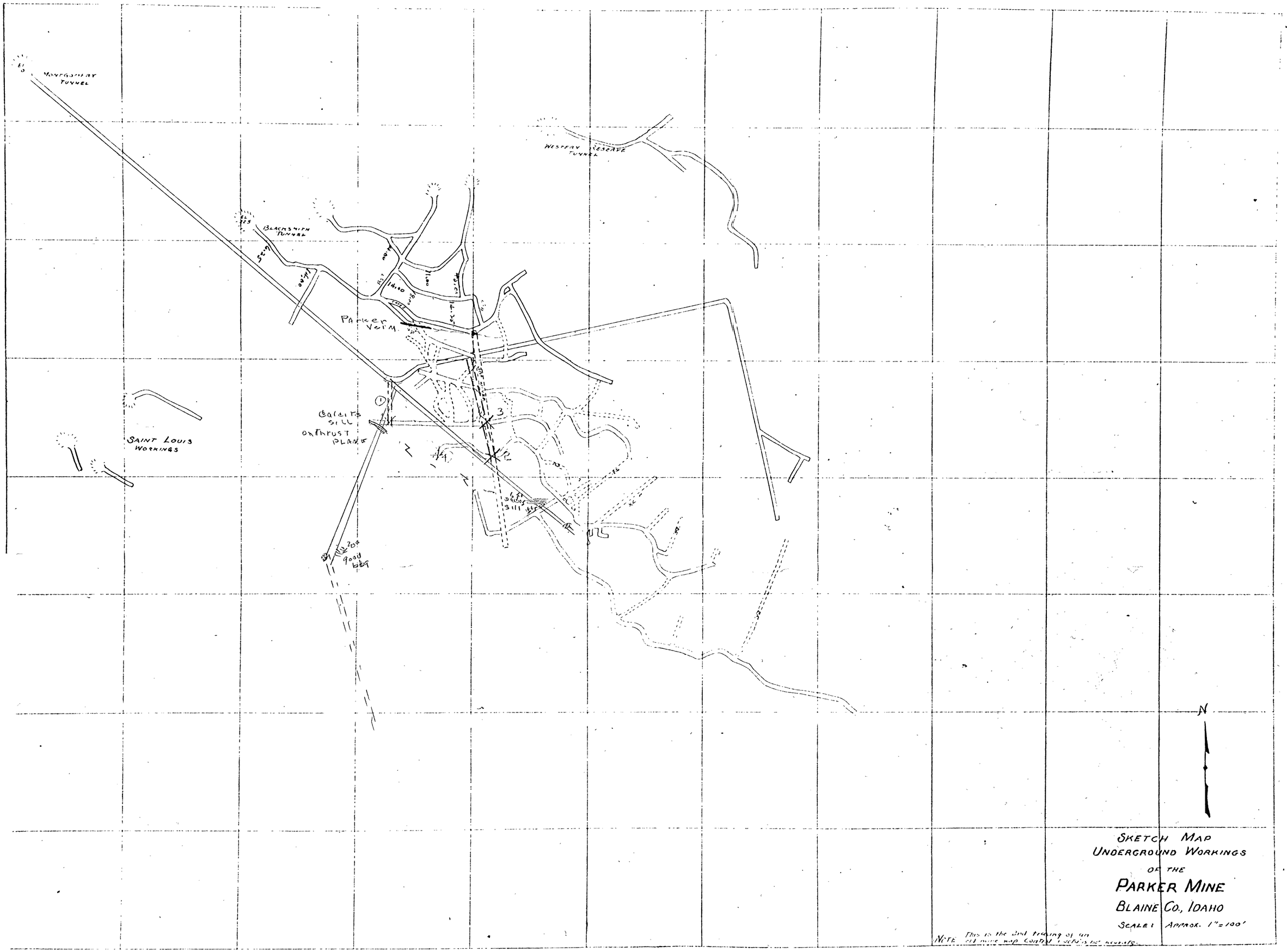
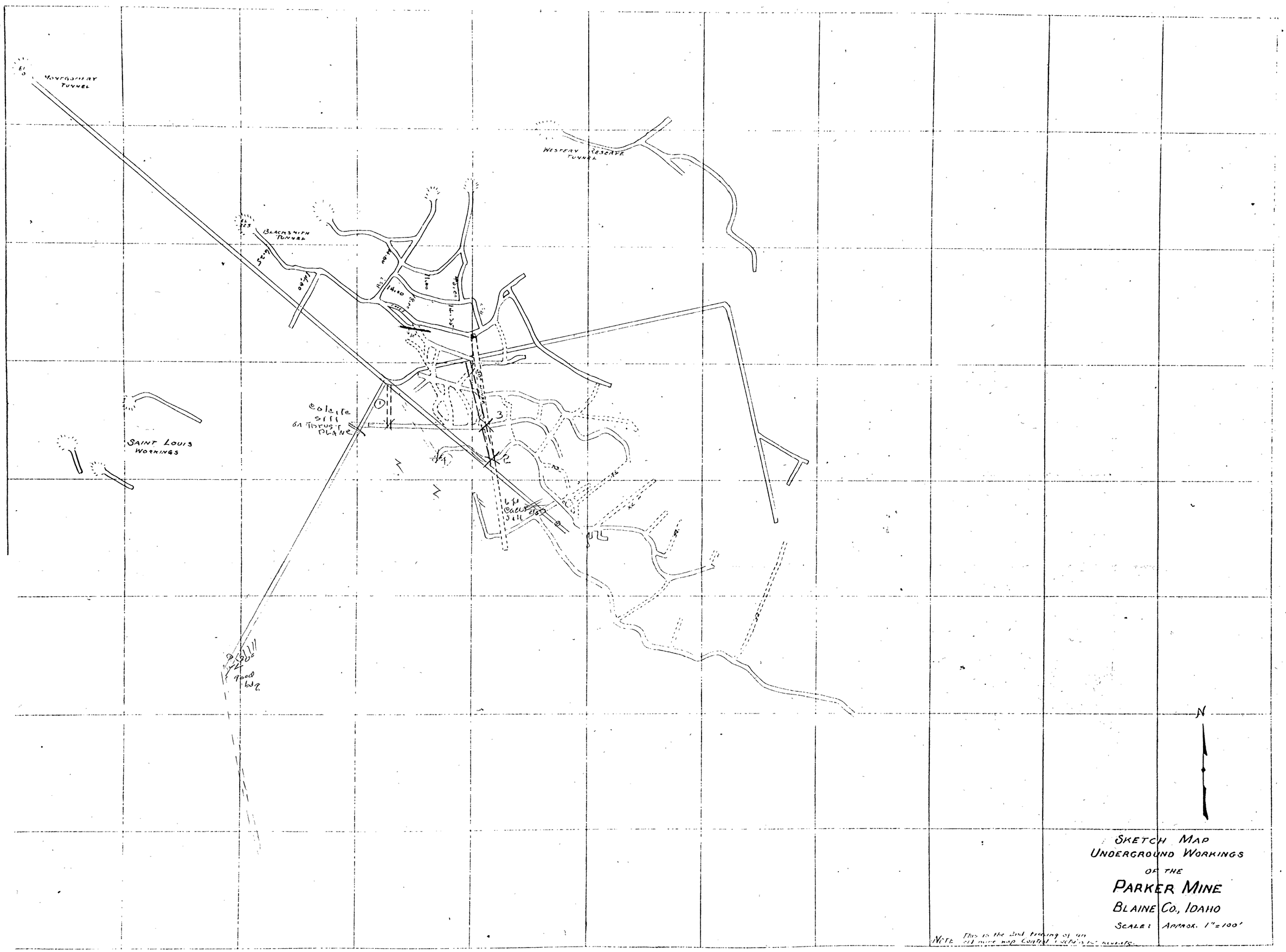


Fig. 1 Index Map showing location of Hailey—Bellevue Mineral belt (1), Triumph—Parker Mine Mineral belt (2), and Mayflower—Red Elephant area. (3).

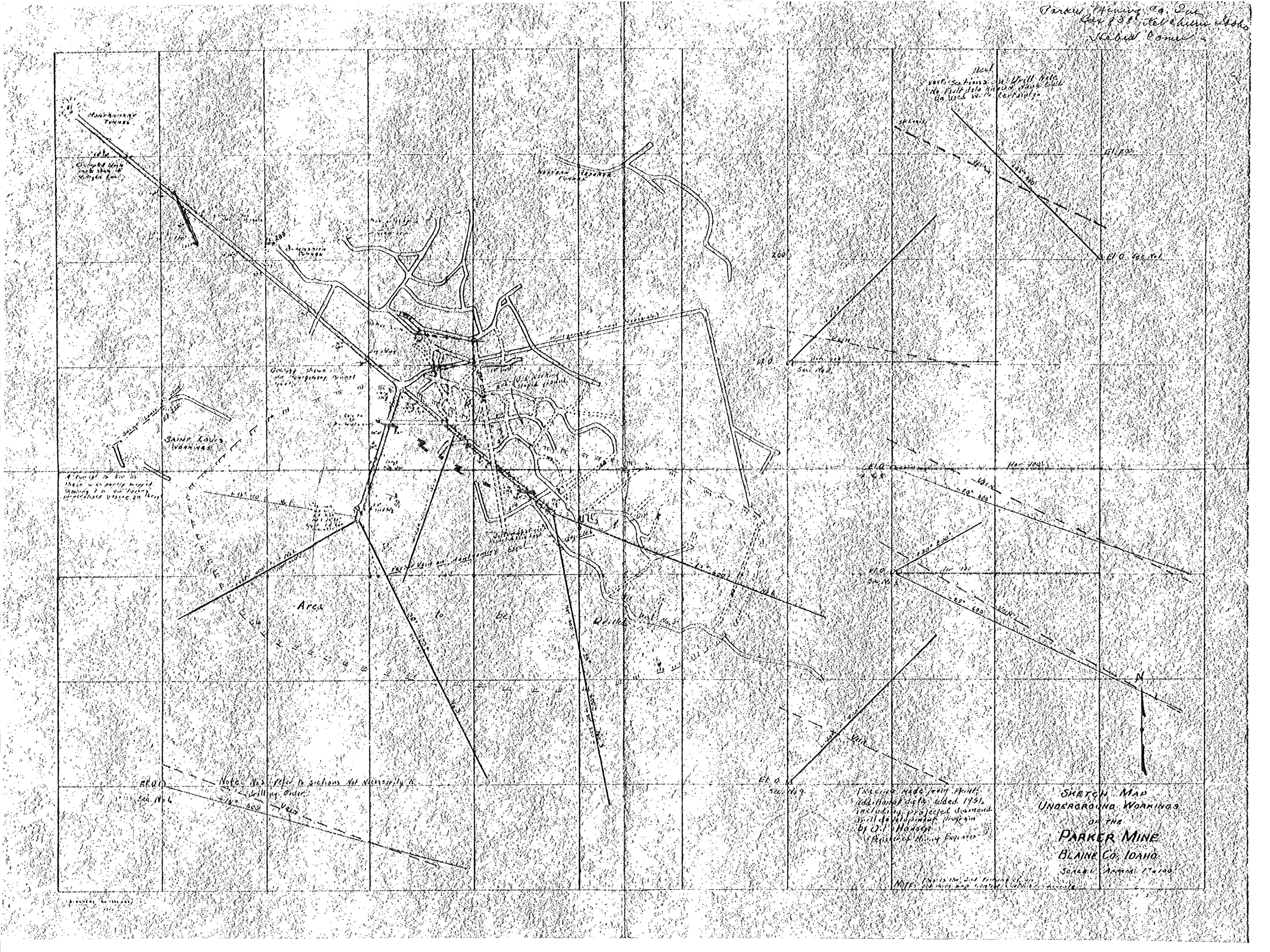

MONTGOMERY TUNNEL
WESTERN RESERVE TUNNEL
BLACKSMITH TUNNEL
Parker Vein
Calcite Sill
on Thrust Plane
SAINT LOUIS WORKINGS
N
SKETCH MAP
UNDERGROUND WORKINGS
OF THE
PARKER MINE
BLAINE CO., IDAHO
SCALE: APPROX. 1" = 100'
NOTE: This is the 2nd tracing of an old mine map. Contact locations are approx.



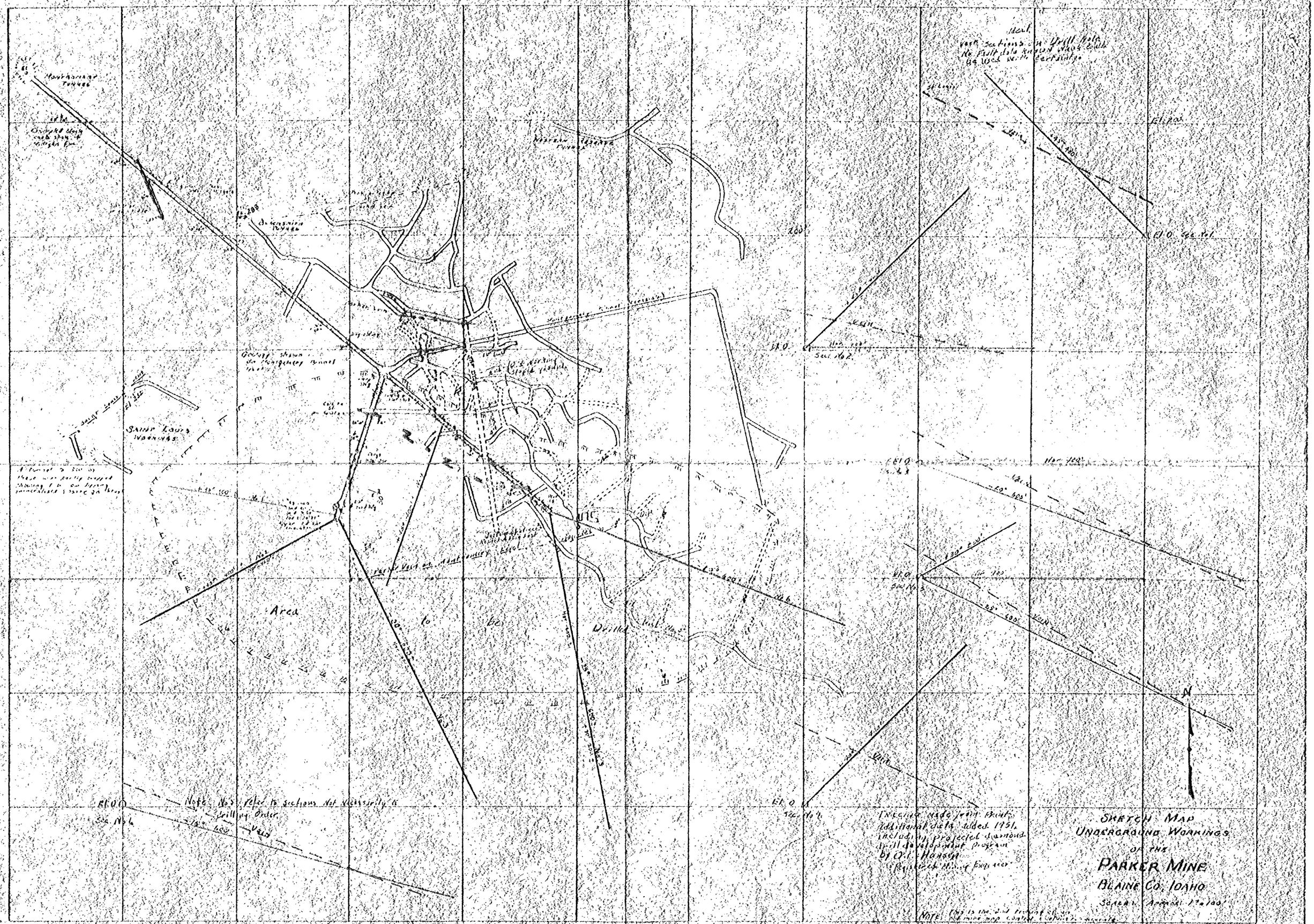
SKETCH MAP
UNDERGROUND WORKINGS
OF THE
PARKER MINE
BLAINE CO., IDAHO
SCALE: APPROX. 1" = 100'

NOTE: This is the 2nd tracing of an old mine map. Contact [illegible] for accuracy.

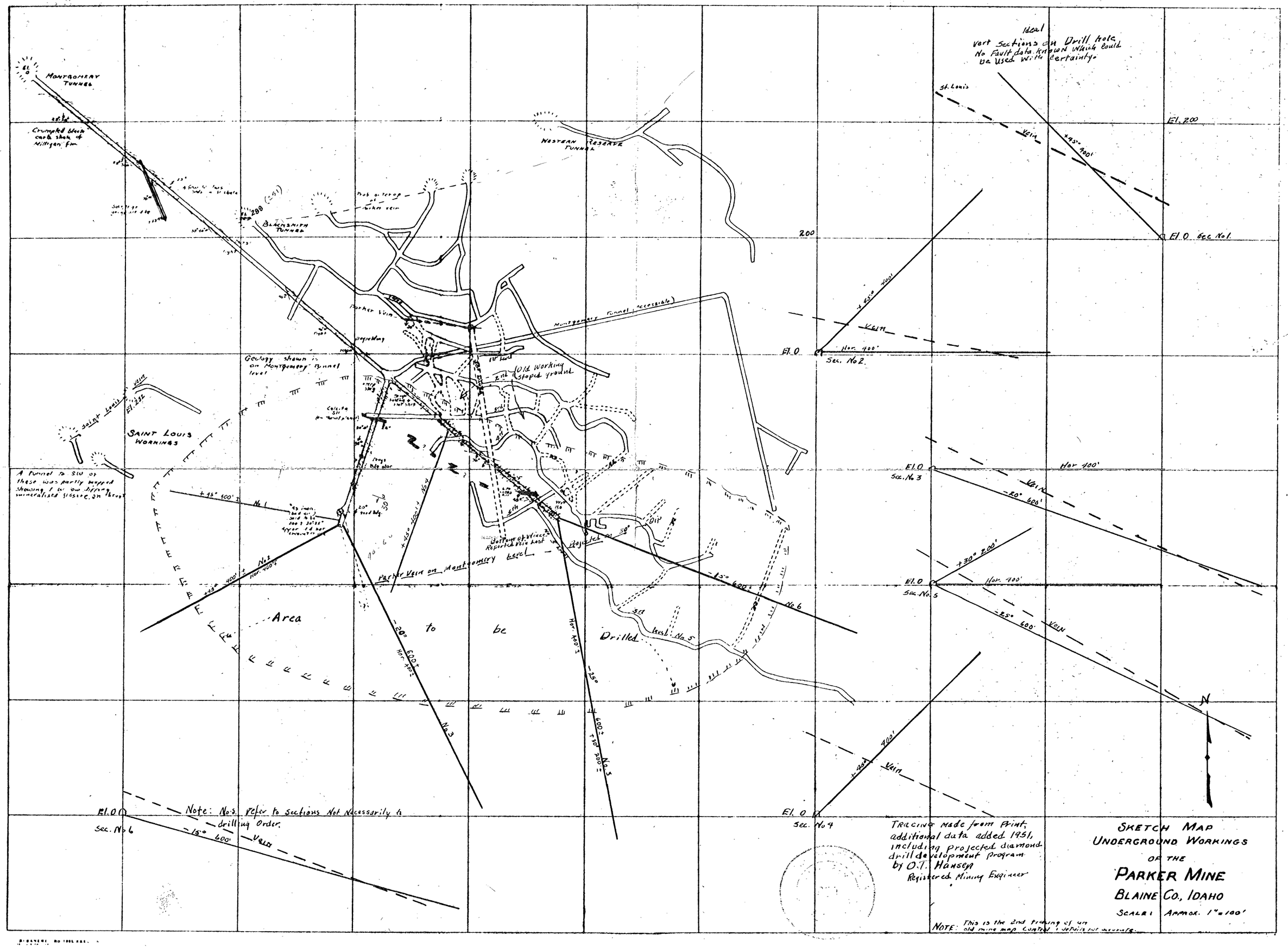
Parker Mining Co. Inc
Box 638 Ketchum Idaho
Hebew Comer



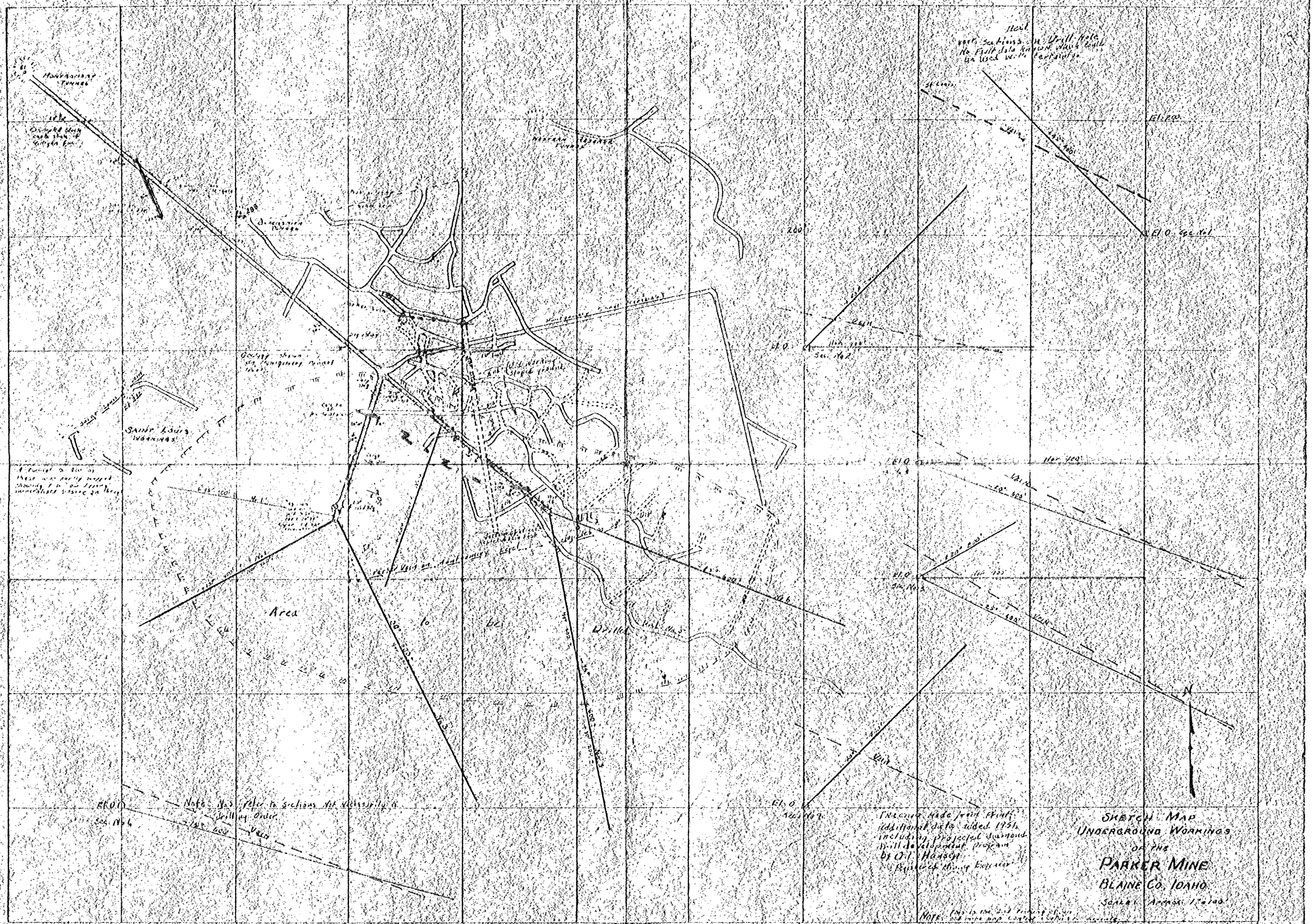
Parker Mining Co. Inc.
Box 838 Ketchum Idaho
Robert Conner



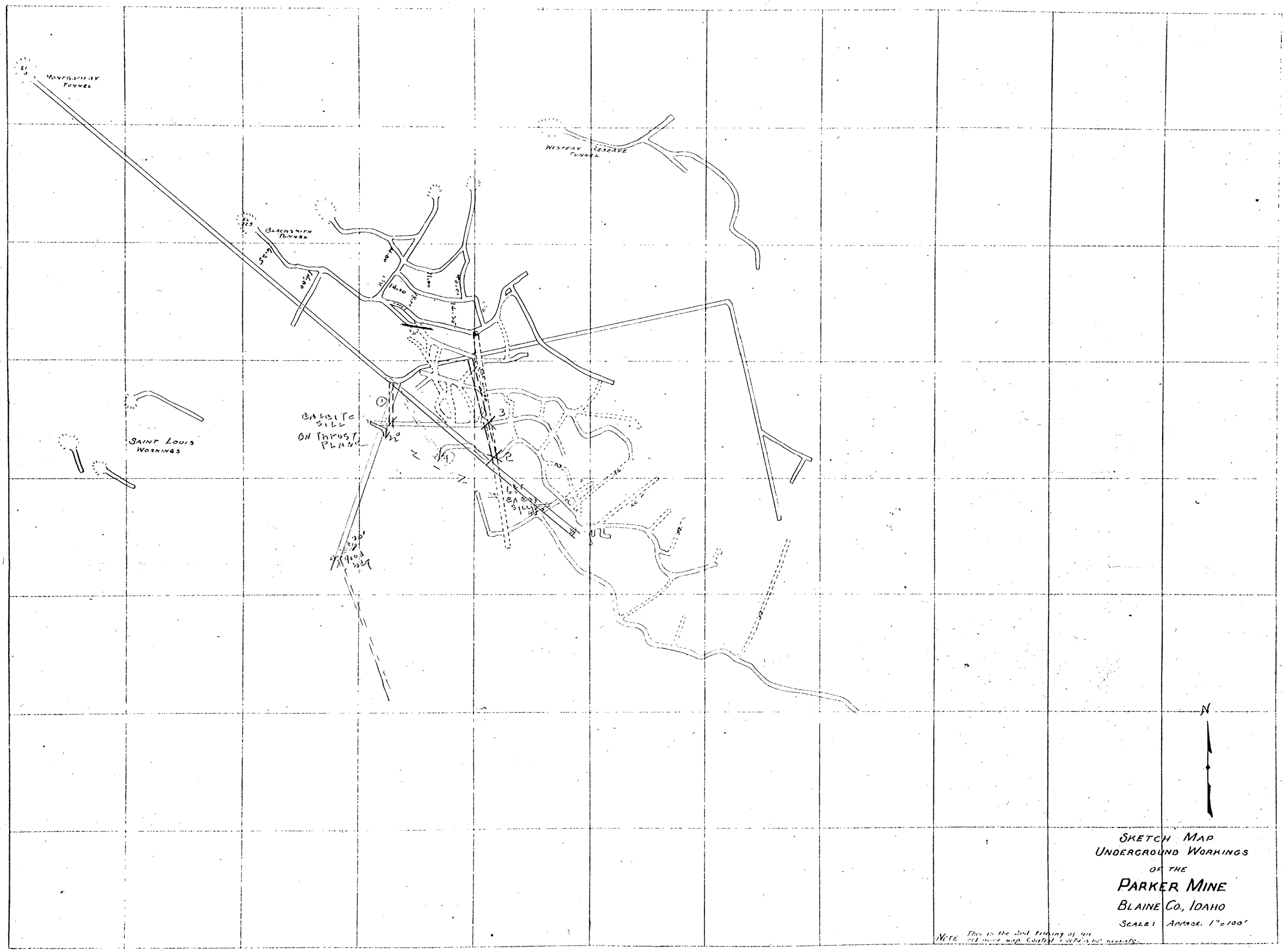
Parker Mining Co. Inc
Box 238 Kellogg Idaho
Hebert Comer



Parker Mining Co. Inc.
Box 838 Ketchum Idaho
McBride Corner



MONTGOMERY TUNNEL
WESTERN RESERVE TUNNEL
BLACKSMITH TUNNEL
PARKER MINE
CALCITE SILL
OR THRUST PLANE
SAINT LOUIS WORKINGS
N
SKETCH MAP
UNDERGROUND WORKINGS
OF THE
PARKER MINE
BLAINE CO., IDAHO
SCALE: APPROX. 1" = 100'
NOTE This is the 2nd tracing of an old mine map. Contact J. Jones for reviews.


MONTGOMERY TUNNEL
WESTERN RESERVE TUNNEL
BLACKSMITH TUNNEL
BASALTIC SILL ON THRUST PLANE
SAINT LOUIS WORKINGS
N
SKETCH MAP
UNDERGROUND WORKINGS
OF THE
PARKER MINE
BLAINE CO., IDAHO
SCALE: APPROX. 1" = 100'
NOTE: This is the 2nd tracing of an old mine map. Control locations are reversed.