DMA Form 1

DEFENSE MINERALS ADMINISTRATION
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INT.-DUP. SEC., WASH., D.C. 98868

DEC 2 1951

131-247

Mr. Claude E. Wood
Administrative Assistant to
Senator Clinton P. Anderson
Senate Office Building
Washington 25, D.C.

Dear Mr. Wood:

I wish to thank you for your letter of December 1, 1951, which transmitted Mr. George M. Reynolds' letter addressed to you and dated November 17, together with the attached newspaper article covering recent activities at the Tom Paine Mine. I have read the attachments with considerable interest and, as you have requested, am returning them herewith for your files.

Thanking you for bringing this matter to my attention, I am

Sincerely yours,

C. O. Mittendorf

Acting Administrator
Defense Minerals Exploration
Administration

Enclosures-2

COMittendorf/fw

Typed 12/27/51
Chron/Tracking File
Mails & Files
Mr. Mittendorf
Docket

FILE COPY
SURNAME: 410

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

FEJohnson
Mittendorf (for)

NOV 27 1951

Hon. Clinton P. Anderson
United States Senate
Washington 25, D. C.

My dear Senator Anderson:

Reference is made to your letter of November 9, 1951, addressed to Mr. Frank E. Johnson, concerning the applications of the Santa Fe Lead-Zinc Mines, Inc., which were denied.

Evidently Mr. Johnson, in his letter to you of November 7, 1951, did not make it clear that the information given in his letter represented the findings of the DMA Field Team. The Field Team recommended that the applicant's request for a loan of $100,000.00 be denied. It did not make any recommendation with respect to applicant's subsequent application for an Exploration Project, inasmuch as this request was filed after the Field Team had made its examination of the property. However, the denial of the application for an Exploration Project was based upon the findings and conclusions given in the Field Team Report.

I trust the foregoing will furnish you with the information desired.

Sincerely yours,

cc 11/27

C. O. Mittendorf (for)

ACTING Administrator
Defense Minerals Exploration
Administration

FEJohnson/mcb
11/26/51
cc to: Adm.Reading Files
Reports and Records
FEJohnson
Docket

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C. M. MOUSER, CHIEF CLERK

United States Senate

COMMITTEE ON
AGRICULTURE AND FORESTRY

DEPARTMENT OF THE INTERIOR
RECEIVED
NOV 15 1951
Defense Minerals Administration,
Production Expansion Division.

November 9, 1951

DMA-247

Mr. Frank E. Johnson
Acting Administrator
Defense Minerals Administration
Department of the Interior
Washington 25, D. C.

Dear Mr. Johnson:

Thank you for your letter of November 7 in regard to the Santa Fe Lead-Zinc Mines, Inc.

I appreciate the information you gave me. However, you did not give me the information requested. In my letter of November 1, I stated that I had been informed that a loan was recommended by the Field Team. I would like to have some more information on this. What did they recommend?

Sincerely yours,

Clinton P. Anderson

CPA-VLFw

DEFENSE MINERALS ADMINISTRATION
WASHINGTON, D. C.
NOV 13 1 44 PM '51

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United States Senate

COMMITTEE ON
AGRICULTURE AND FORESTRY

November 9, 1951

Mr. Frank E. Johnson
Acting Administrator
Defense Minerals Administration
Department of the Interior
Washington 25, D. C.

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Sincerely yours,

Clinton P. Anderson

CPA-VLPw

DEFENSE MINERALS
ADMINISTRATION
WASHINGTON, D.C.
NOV 13 1 44 PM '51

NOV 27 1951

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United States Senate
Washington 25, D. C.

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I trust the foregoing will furnish you with the information desired.

Sincerely yours,

C. O. Mittendorf

ACTING Administrator
Defense Minerals Exploration
Administration

FEJohnson/meb
11/26/51
cc to: Adm.Reading Files
Reports and Records
FEJohnson
Docket

FILE COPY
SURNAME:

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

NOV 7 1951

DMA-247
Santa Fe Lead-Zinc Mines, Inc.
Santa Fe, New Mexico

Hon. Clinton P. Anderson
United States Senate
Washington, D. C.

My dear Senator Anderson:

I have your letter of November 1, 1951 addressed to Mr. C. O. Mittendorf, regarding the Santa Fe Lead-Zinc Mines application.

Your information is correct that the application for a loan was denied. Subsequently the project was reviewed and considered for an exploration loan. Under date of July 19, 1951, the applicant was advised that the exploration loan was denied.

The reasons for the denial are in substance as follows:

The Defense Minerals Administration must be convinced that a proposed project holds enough promise for discovery of strategic metals to justify an allocation of Government funds appropriated for strategic mineral exploration. Because the many known veins in the Cerrillos District are too narrow to have yielded very much production of base metals to date, and because the occurrence as veins in an igneous mass is a relatively unfavorable geologic setting for lead and zinc, we do not believe the chances for finding significant deposits of lead and zinc are good enough to warrant an expenditure of Government funds.

If I can be of any further assistance to you, do not hesitate to call upon me.

Sincerely yours,

(signed) FRANK E. JOHNSON (for)

Acting Administrator

GEJOHNSON:ks
11/5/51

cc: Administrator
Docket File DMA-247
Bishop
McKnight

GEJohnson

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United States Senate

COMMITTEE ON
AGRICULTURE AND FORESTRY

November 1, 1951

Mr. C. O. Mittendorf
Acting Administrator
Defense Minerals Administration
Department of the Interior
Washington, D. C.

Dear Mr. Mittendorf:

Some months ago I wrote the Defense Minerals Administration about DMA-247, Santa Fe Lead-Zinc Mines, Inc. Application for a loan was denied. Since that time, I have been informed that a loan was recommended by the field office. I would like to have a little more information on this and would like to be advised what the field team did recommend.

Sincerely yours,

Clinton P. Anderson

CPA-VLFw

OFFICIAL FILE COPY

To	Init.	Date
Code 350	cc	11/2/51
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DEFENSE MINERALS ADMINISTRATION WASHINGTON, D.C.
NOV 2 8 52 AM '51

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United States Senate

COMMITTEE ON
AGRICULTURE AND FORESTRY

November 1, 1951

Mr. C. W. Mittendorf
Acting Administrator
Defense Minerals Administration
Department of the Interior
Washington, D. C.

Dear Mr. Mittendorf:

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Sincerely yours,

Clinton P. Anderson

CPA-VLFw

Bulings
11/2/51

DEFENSE MINERALS
ADMINISTRATION
WASHINGTON, D.C.
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SURNAME:

DMA Docket
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O'Leary
(Forbes)
McKnight
Dyer
Adams
Schroeder

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

July 30, 1951

DMA-247
Santa Fe Lead-Zinc Mines, Ltd.
Santa Fe, New Mexico

Hon. Clinton P. Anderson
United States Senate
Washington 25, D. C.

My dear Senator Anderson:

This is to acknowledge your letter of July 23 concerning the application of the Santa Fe Lead-Zinc Mines, Ltd., Santa Fe, New Mexico, for a loan in the amount of $100,000.

After a thorough investigation Defense Minerals Administration finds that the proposed project covering exploration of the Tom Payne Mine at Cerrillos, Santa Fe County, New Mexico, does not hold enough promise for discovery of strategic metals to justify an allocation of Government funds for strategic mineral exploration.

I regret that we are unable to approve this request for a loan to carry out further exploration in this district. As of July 19, 1951, Mr. Richard McGhee, the applicant, was notified by letter of the denial of his request.

In case I can be of further assistance to you at any time, please do not hesitate to call upon me.

Sincerely yours,

W. C. SCHROEDER
Acting Administrator

4/6 cc

TFBILLINGS:ks

cc: Administrator
Reports & Records
Mote
McKnight
Billings
Files

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

July 30, 1951

DMA-247
Santa Fe Lead-Zinc Mines, Ltd.
Santa Fe, New Mexico

Hon. Clinton P. Anderson
United States Senate
Washington 25, D. C.

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Sincerely yours,

[illegible]
Acting Administrator

TPBILLINGS:ks

cc: Administrator
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ALLEN J. ELLENDER, LA., CHAIRMAN
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C. M. MOUSER, CHIEF CLERK

Mr. Billings

United States Senate

COMMITTEE ON
AGRICULTURE AND FORESTRY

July 23, 1951

Mr. Billings

DMA-247
Santa Fe Lead-Zinc Mines, Ltd.
Santa Fe, New Mexico

Dr. James Boyd
Administrator
Defense Minerals Administration
Department of the Interior
Washington 25, D. C.

Dear Jim:

I wonder if there have been any recent developments concerning the above application for an exploration loan. You wrote me on June 28 that Mr. McGhee's project would receive consideration as promptly as possible.

Sincerely yours,

Clinton P. Anderson

CPA-VLFf

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 26 1951
LANDON F. STROBEL
Executive Secretary

JUL 27 1951

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March. Copy Contact

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United States Senate

COMMITTEE ON
AGRICULTURE AND FORESTRY

July 23, 1951

DMA-247
Santa Fe Lead-Zinc Mines, Ltd.
Santa Fe, New Mexico

JUL 25 1951

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

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Clinton P. Anderson

CPA-VLFf

E/B
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DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 2 6 1951

LANDON F. STROBEL
Executive Secretary

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

Santa Fe Lead Zinc Mines

Memorandum

July 20, 1951

To: Reports and Records Unit
Administrative Management Division

Re: Docket DMA-247
Tom Payne Mine
Cerrillos District
Santa Fe County, N. Mexico
Exploration loan $50,000
(100% Govt. participation)

From: Chief, Lead-Zinc Branch

Subject: Denial of exploration loan

The applicant's request for a production loan of $100,000 on the Tom Payne property was previously denied (May 10) because the reserves in the mine were insufficient to amortize the loan at current market prices for lead and zinc. We have a field team report made at the time of the earlier application which shows that if the $100,000 loan were granted, the production costs would just about equal the income from the ore, allowing nothing for the amortization of the loan.

The applicant, in letter of June 18 to Charles Johnson of the Bureau of Mines, requests that the company be granted a loan of $50,000 for exploration. With this they "plan to explore the extensive ore bodies known to exist in over 20 veins running through this property". The application is not made on Form MF-103 and no mention is made of matching funds.

The ore deposits of the Cerrillos District are vein deposits in shear zones in a quartz monzonite and mozonite porphyry. These shear zones are commonly 4-7 feet thick, but the mineral bearing veins occupy only a fraction of this thickness, ranging from one inch to as much as 3 feet for short stretches. Mined ore shoots have averaged one foot thick. The vein matter is rich, but because of the friable character of the shear zone, it is diluted in mining by the full thickness of material in the shear zone.

The shear zone on which the Tom Payne vein is localized is as strong or stronger than others in the district. The vein has been the second most productive one in the district, and the most productive one in the northwest sub-district. Past production from the mine has been small, and made largely in times of high metal prices. The major production was made in World War I. An attempt to operate the mine in 1942-1944 was unsuccessful, and a loan of $25,000 granted by the Reconstruction Finance Corporation was not repaid. The total recorded production, 1905 to date, has been 6,771 tons of ore containing 165 tons of recoverable lead, 562 tons of recoverable zinc, and 13 tons of copper.

no 9 Expressed as percentages, this is 2.4% lead and 8.3% zinc. The largest ore shoot mined was 300 feet long. The tonnage marketed came from a total stope length of 650 feet measured on the 3 levels, with an average depth of 100 feet. This is the maximum that can be expected in any future development program at the Tom Payne.

When it is considered that many other veins are exposed in the district and that the Tom Payne vein has been the most highly developed in the Northwest sub-district because it has been the most promising, we believe that the chances for finding a lead-zinc deposit of any significance by further exploration on this property are poor. The geologic occurrence is not one that would offer much encouragement. It is, therefore, recommended that the application be denied, and that the attached letter be sent to the applicant.

It is not evident that the applicant is aware of the matching requirement in the exploration program, so it is not known whether he would be willing to put up his share of the funds necessary for an exploration. However, it is believed that whether he will match or not is irrelevant in view of the unfavorable geologic situation.

To complete the picture of the more important producing mines for this district, the Cash Entry mine, lying about 2½ miles southeast of the Tom Payne, has produced 8,660 tons of ore containing 3.5% lead and 1.7% zinc. The Pennsylvania mine, lying about 1/2 mile south of the Tom Payne, shipped nearly 400 tons of ore during 1942-45, averaging 13.2% lead, 16.9% zinc, 0.35% copper, 5.12 oz. of silver and .013 oz. of gold. This was hand sorted ore. The Pennsylvania vein is thin, containing elongate tabular bodies of sulfide ranging from a few inches to occasionally 3 feet in thickness, but discontinuous along strike and dip. This mine quit production in August 1946, 1 year before termination of the Premium Price plan.

Returned herewith are the field team report on the docket, the assembled file as obtained from Reports and Records Unit, and applicant's letter of June 18, 1951, to Bureau of Mines, attention of Charles Johnson.

T. P. Billings, Chief,
Lead-Zinc Branch

Approved:

Director, Supply Division

FILE COPY
SURNAME:

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

Santa Fe Lead-Zinc Mines Ltd

McKnight
Billingsley
O'Leary
C Fouquette

Memorandum

July 20, 1951

To: Reports and Records Unit
Administrative Management Division

Re: Docket DMA-247
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Santa Fe County, N. Mexico
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(100% Govt. participation)

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T. P. Billings, Chief,
Lead-Zinc Branch

JF 7/23

Approved:

Tom Lyon

Director, Supply Division

ETMcKNIGHT:emp G 7-20-51
Copies to: J. H. East, Jr. Region IV (2)
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

Q.E.C.

July 20, 1951

Memorandum

To: Reports and Records Unit
Administrative Management Division

From: Chief, Lead-Zinc Branch

Subject: Denial of exploration loan

Re: Docket DMA-247
Tom Payne Mine
Cerrillos District
Santa Fe County, N. Mexico
Exploration loan $50,000
(100% Govt. participation)

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No 11

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T. F. Billings, Chief,
Lead-Zinc Branch

Approved:

Tom Lyon

Director, Supply Division

E.McKNIGHT:emp G 7-20-51

Copies to: J. H. East, Jr. Region IV (2)
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
R. A. Kate
Reports & Records
Directors r. file 4214 GSA
Jr. r. file 4214 GSA
Files

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SURNAME:

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

Santa Fe Lead-Zinc Mines Ltd

McKnight
Billings
Olsen
(For Mote)

July 19, 1951

Re: Docket D-247

G. E. C.

Mr. Richard McGhee
Box 393
Santa Fe, New Mexico

Dear Mr. McGhee:

Your letter of June 18 to the Bureau of Mines, attention of Charles Johnson, has been referred to the Defense Minerals Administration for attention.

The program set up by the Defense Minerals Administration for exploration of strategic mineral deposits requires that the applicant furnish half of the cost of a proposed exploration project. However, this is not the sole requirement for approval, as the Defense Minerals Administration must be convinced that a proposed project holds enough promise for discovery of strategic metals to justify an allocation of Government funds appropriated for strategic mineral exploration. Because the many known veins in the Cerrillos District are too narrow to have yielded very much production of base metals to date, and because the occurrence as veins in an igneous mass is a relatively unfavorable geologic setting for lead and zinc, we do not believe the chances for finding significant deposits of lead and zinc are good enough to warrant an expenditure of funds appropriated specifically to strengthen national defense. I regret, therefore, that we are unable to approve your request for a loan to carry out further exploration in ~~this district.~~

Very truly yours,

Tom Lyon

Tom Lyon, Chief
Supply Division

JBF 7/23

ETMcKNIGHT:emp
G 7-19-51
Copies to: J. H. East, Jr. Region IV (2)
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
R. H. Mote
Reports and Records
Directors r. file 4214 GSA
Br. r. file 4214 GSA
Files

Q.E.C -

July 19, 1951

Re: Docket [illegible]

Mr. Richard [illegible]
Box 395
Santa Fe, New Mexico

Dear Mr. [illegible]:

Your letter of June 18 to the Bureau of Mines, attention of Charles [illegible], has been referred to the Defense Minerals Administration for attention.

The program set up by the Defense Minerals Administration for exploration of strategic mineral deposits requires that the applicant furnish [illegible] the [illegible] of a proposed exploration project. However, this is not the sole requirement for approval, as the Defense Minerals Administration must be convinced that a proposed project holds enough promise for discovery of strategic metals to justify an allocation of Government funds appropriated for strategic mineral exploration. Because the many known veins in the Cerrillos District are too narrow to have yielded very much production of base metals to date, and because the occurrence of veins in an igneous mass is a relatively unfavorable geologic setting for lead and zinc, we do not believe the odds for finding significant deposits of lead and zinc are good enough to warrant an expenditure of funds appropriated specifically to strengthen national defense. I regret, therefore, that we are unable to approve your request for a loan to carry out further exploration in this district.

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Tom Lyon

Tom Lyon, Chief
Supply Division

RTMcKEIONT:emp
G 7-19-51
Copies to: J. [illegible] Jr. Region IV (2)
Chief, Lead-Zinc Br.
[illegible] Knight 4204 GSA
R. E. Jones
Reports and 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.

Herres
Brown
Mote
Strobel 7/2

June 28, 1951

DMA-247
Santa Fe Lead-Zinc Mines, Ltd.
Santa Fe, New Mexico

Hon. Clinton P. Anderson
United States Senate
Washington 25, D. C.

Dear Clint:

I have your letter of June 26 requesting a report on the application of Mr. Richard McGhee of the Santa Fe Lead-Zinc Mines, Ltd. for Government assistance under the exploration program of DMA.

This application which originally was made for a development loan is now being reconsidered for exploration assistance.

Although we have a large backlog of applications at this time, Mr. McGhee's project will receive consideration as promptly as possible.

In case I can be of further assistance to you at any time, please feel free to call on me.

Sincerely yours,

JAMES BOYD

Administrator

HERRES:ks

cc: Administrator
Strobel
Mote
McKnight
Herres
Files

ALLEN J. ELLENDER, LA., CHAIRMAN
CLYDE R. HOEY, N. C.
OLIN D. JOHNSTON, S. C.
SPESSARD L. HOLLAND, FLA.
CLINTON P. ANDERSON, N. MEX.
JAMES O. EASTLAND, MISS.
HUBERT H. HUMPHREY, MINN.
GEORGE [illegible]KEN, VT.
MILTON R[illegible]JNG, N. DAK.
EDWARD J. THYE, MINN.
JAMES P. KEM, MO.
BOURKE B. HICKENLOOPER, IOWA
KARL E. MUNDT, S. DAK.

C. M. MOUSER, CHIEF CLERK

United States Senate

COMMITTEE ON
AGRICULTURE AND FORESTRY

June 26, 1951

Dr. James Boyd
Administrator
Defense Minerals Administration
Department of the Interior
Washington, D. C.

Dear Jim:

I will very much appreciate a status report on the exploration application of Mr. Richard McGhee of the Santa Fe Lead-Zinc, Mines, Ltd., DMA-247.

Sincerely yours,

Clinton P. Anderson

CPA-VLFf

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 27 1951
LANDON F. STROBEL
Executive Secretary

JUN 28 1951

BUREAU OF MINES
MAIL ROOM
WASHINGTON, D. C.

JUN 27 10 47 AM '51

LANDON F. STROBEL

ALLEN J. ELLENDER, LA., CHAIRMAN
CLYDE R. HOEY, N. C.
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United States Senate

COMMITTEE ON
AGRICULTURE AND FORESTRY

June 26, 1951

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Defense Minerals Administration
Department of the Interior
Washington, D. C.

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Sincerely yours,

Clinton P. Anderson

CPA-VLFf

JUN 27 1951

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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JUN 27 1951
LANDON F. STROBEL
Executive Secretary

Dearman—Int. 3735

DEPARTMENT OF THE INTERIOR

INFORMATION SERVICE

GEOLOGICAL SURVEY

For Release JUNE 21, 1946

NORTH MINING AREA, CERRILLOS DISTRICT, SANTA FE COUNTY, NEW MEXICO

The Geological Survey has completed a preliminary report on the North mining area in the Cerrillos district, Santa Fe County, N. Mex., Survey Director W. E. Wrather today reported to Secretary of the Interior J. A. Krug.

The North mining area, approximately 18 miles southwest of the city of Santa Fe, includes the Tom Payne, Bottom Dollar, Pennsylvania, and Black Hornet mines. Production from these mines has come from ore-bearing veins which contain zinc and lead with minor quantities of copper and silver.

The accessible mine workings and the surrounding mineralized area were studied and mapped during the summer and fall of 1945 by W. C. Stoll and W. J. Powell. The results of this investigation are summarized in a preliminary report consisting of a brief text which describes the geologic structure and mineralization of the area, and two accompanying illustrations--a geologic and topographic map of the North mine area, and a map of the underground workings of the Tom Payne, Pennsylvania, and Black Hornet mines.

Copies of the text and maps are now available as Preliminary Map 3-205, Strategic Minerals Investigations series, and may be obtained by persons directly interested in the area upon application to the Director, Geological Survey, Washington 25, D. C.

xxx

P.N. 133649

UNITED STATES

DEPARTMENT OF THE INTERIOR
Geological Survey
Washington
1946

Strategic Minerals Investigations
Preliminary Report 3-205

THE NORTH MINING AREA, CERRILLOS DISTRICT SANTA FE COUNTY, NEW MEXICO

By Walter C. Stoll

The Cerrillos mining district, in Santa Fe County, N. Mex. is about 18 miles southwest of the city of Santa Fe. It contains small deposits of zinc-lead-copper-silver ore which have been mined intermittently since the district was first discovered by the Spaniards prior to 1680. Between 1904 and 1930 the district is reported to have produced 1,155,527 pounds of zinc, 842, 340 pounds of lead, and 160,620 pounds of copper. The latest period of mining activity started in 1942 and has continued to the present time.

Two mining areas lie in the Cerrillos Hills, The North area includes the Tom Payne, Bottom Dollar, Pennsylvania and Black Hornet mines, and the South area includes the Mine del Tiro, Cash Entry, Franklin, and Grand Central mines. Surface and underground maps of the North mining area were recently completed by the Geological Survey as part of a geologic study of the Cerrillos Hills. They accompany this report. Figure 1 is a geologic and topographic map showing roads, mine workings, prospect pits, and geology, including the metalliferous veins. Figure 2 shows the underground workings and geology of the Tom Payne, Pennsylvania, and Black Hornet mines.

The Cerrillos Hills are underlain by monzonite and finer-grained porphyritic rocks of similar composition, which occur as a major laccolith partly surrounded by smaller laccoliths, dikes, and sheets intrusive into sedimentary rocks of Cretaceous age. In the North mining area, the rocks include quartzite, monzonite and trachyte porphyry. The quartzite and monzonite are cut by dikes and flat sheets of trachyte porphyry.

The North area contains some 30 metalliferous veins, which strike N 5°W. to N. 20°E., and dip mainly to the west at steep angles. Along strike the veins are traceable, with concealed intervals, for distances of a few hundred feet to as much as 2,100 feet. The Tom Payne vein, the most extensively developed of the deposits, has a vertical extent of at least 435 feet. The veins are narrow zones of shear and alteration, not commonly wider than 10 feet, in which are distributed shoots of coarse sphalerite-galena ore containing minor quantities of chalcopyrite and from 1 to 3 ounces silver to the ton. The ore shoots are for the most part thin, ranging in thickness from about 6 inches to 3 feet, with an average of perhaps 1 foot. Along strike they continue, with local variations of thickness, for distances of 25 to about 300 feet. The vertical extent of the ore shoots is not well shown but appears to be comparable to the horizontal extent, in the Pennsylvania shaft, however, one ore shoot, exposed laterally on the 137-foot level for 50 feet, is continuous on dip for more than 150 feet. The veins strike and dip regularly, but minor variations of altitude are present which may have some bearing on the position of ore shoots. No post-mineral cross faults have been found although minor strike faults are present in the Tom Payne and Black Hornet mines, Minor veins or fractures branching from the major veins are not common; such junctions do not appear to affect the localization of ore.

Adjacent to the ore shoots, as well as in the barren parts of the veins, the wall rocks are sheared and strongly bleached by hydro-thermal alteration. Alteration processes were chiefly sericitization, accompanied

by introduction of fine-grained carbonate, microcrystalline quartz, and scattered fine pyrite. Chloritized wall rocks are present locally. The whitest altered rock contrasts markedly with the dark gray color of the fresh monzonite.

Although the immediate walls of an ore shoot are ordinarily highly sheared, the ore itself is solid and unfractured. Banding due to successive deposition is the most common internal structural feature of the ore shoots. The ore is mostly coarse-grained, but individual crystals of galena and sphalerite may range in size from more than 2 inches to a small fraction of an inch. The two chief ore minerals are present in roughly equal proportions in most ore shoots. At some points they are closely intergrown, and in others they may have formed separate, monomineralic bands or masses. A pocket of ore in the Black Hornet mine consisted almost solely of coarse brown sphalerite with but minor quan tities of galena and pyrite. Both honey-yellow and brown sphalerite are present in the North area, the former being the more common. Chalcopyrite is sporadically present as small isolated crystals, blebs, or streaks, and is in some places coated with thin films of covellite. Small amounts of finely crystallized pyrite are present in all the ores. Gold, in the amount of about 0.02 ounces per ton, is present in much of the ore from the North area, though higher assays have been reported from the South area. Gangue minerals include carbonate; quartz, in part amethystine, yellowish-brown opal, chalcedony, and barite. Some of the carbonate is calcite but other varieties are pink and may be manganiferous. The Gangue minerals, chiefly quartz and carbonate are intermixed with the ore minerals in sparse to moderate quantities. The ore of the Tom Payne mine contains more quartz than that from the other mines. Altered wall rock is the most common matrix of the ore minerals where the latter are not solidly intergrown.

The veins are thoroughly leached and oxidized to depths of 50 to 100 feet below the surface, and partial oxidation extends to depths of more than 200 feet in places. In most prospect pits the vein exposures consist solely of light-colored, altered rock, more or less stained by limonite. Other exposures show narrow bands of hard, cellular gossan composed mainly of quartz, limonite, and manganese oxide. Malachite, opal and chalcedony are locally present, and a few surface exposures contain residual galena. Sphalerite is leached from the zone of weathering except for scattered crystals, Zones of supergene sulphides of copper or silver have apparently not been found.

Whether on the hillsides or in the valleys, the veins outcrops are mostly covered by a rocky creep mantle several feet thick. Veins are indicated by float and in rare instances by outcrops. Prospecting, both by shaft sinking and by drifting from the surface, is handicapped by the relatively great depth of the leached zone, Past experience in the district indicated that it is more advisable to explore by sinking and drifting on a vein than by crosscutting.

Mr. Herres

Santa Fe, New Mexico,
June 18, 1951.

Re: Docket DMA-247.

United States Department of the Interior,
Bureau of Mines,
Washington 25, D. C.

Attention: ~~Mr. Charles Johnson.~~

Sir:

Reference is made to loan application for $100,000.00 by Santa Fe Lead-Zinc Mines, Limited. This was a proposed limited mining partnership. Please note that a charter has been granted by the New Mexico State Corporation Commission, dated April 26, 1951, to SANTA FE LEAD-ZINC MINES, INC., a corporation (NSL). Directors and officers are:

Richard McGhee,	of Santa Fe, N. M.,	President.
Charles B. Gonsales,	do	Vice-President.
Willard W. Moyer,	do	Secretary & Treasurer.

Our original application was for a production loan of $100,000.00. Reference to Docket DMA-247 will give the pertinent information. This also applies to the new corporation.

We hereby respectfully request that said application now be reconsidered by your office and that we be granted a loan for exploration for a smaller amount; viz.: fifty thousand dollars ($50,000.00).

We recently sent 50 lbs. of samples from our Tom Payne Mine to The Ozark Smelting and Mining Co., Coffeyville, Kansas. On June 15 they w rite that the copper content (o.48) is too high for satisfactory use in their chemical pigment manufacture. They also state that their laboratory analysis resulted in 24.0 % zinc and 12.0 % lead.

With this $50,000.00 loan we plan to explore the extensive ore bodies known to exist in over 20 veins running through this property, as shown by report and maps made by W. C. Stoll and W. J. Powell.

We have every reason to expect that this exploration will result in uncovering extremely large ore bodies; thus exposing in the drifts sufficient rich ore to justify the original application.

If any further information is desired, please advise us. We will greatly appreciate your prompt and favorable consideration in expediting this matter for us, as all attempts to secure adequate private financing have failed, through no fault of ours.

Respectfully submitted,

SANTA FE LEAD-ZINC MINES, INC., (Box 393)

By: R. McGhee
Richard McGhee, President

WWM
cc/Hon. Clinton P. Anderson

Department of The INTERIOR
Defense Minerals Administration
RECEIVED
JUN 2 5 1951
LANDON F. STROBEL
Executive Secretary

FILE COPY
SURNAME:

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

May 10, 1951

Memorandum

Re: DMA-247

To: Executive Secretary, D. M. A.

From: Lead-Zinc Branch, D. M. A.

Commodity: Lead, zinc

Subject: Denial of requested loan of $100,000 for opening mine and installing 50-ton mill at Tom Payne mine, Santa Fe, New Mexico.

The Lead-Zinc Branch has reviewed the report prepared by the field team, and concurs with their conclusions:

(1) that the project as proposed by applicant is not economic without over-market prices, and

(2) that the request for a loan of $100,000 should be denied.

Otto Herres, Chief
Lead-Zinc Branch

ETMcKnight:emp
G 5/10/51

Copies to: J. H. East, Jr, Region IV (2)
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
L. B. Moon
R. H. Mote
L. F. Strobel
T. Lyon
Directors redding file 4214 GSA
Br. reading file 4214 GSA
Files

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

May 10, 1951

Memorandum

Re: DMA-247

To: Executive Secretary, D. M. A.

From: Lead-Zinc Branch, D. M. A.

Subject: Denial of requested loan of $100,000 for opening mine and installing 50-ton mill at Tom Payne mine, Santa Fe, New Mexico.

The Lead-Zinc Branch has reviewed the report prepared by the field team, and concurs with their conclusions:

(1) that the project as proposed by applicant is not economic without over-market prices, and

(2) that the request for a loan of $100,000 should be denied.

Otto Herres, Chief
Lead-Zinc Branch

Approved:

Director, Supply Division

FILE COPY
SURNAME:

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

Mr. Knight
Mr. Moon
Mr. Mote
Strobel 317

May 10, 1951

Re: Docket DMA-247

Mr. Richard McGhee
P. O. Box 74
Santa Fe, New Mexico

Dear Mr. McGhee:

The Tom Payne mining property covered by your application for a mining loan (DMA-247) has been examined by a Government engineer and geologist at the request of the Defense Minerals Administration.

From a study of the report prepared by this field team, the Lead-Zinc Branch of the Defense Minerals Administration concludes that the amount of ore in the mine is inadequate to amortize, at current market prices for lead and zinc, the mining and milling costs under the plan that you propose. Hence, we do not consider it a justifiable expenditure of public funds to advance the loan of $100,000 that you request.

We wish to thank you for bringing this property to our attention.

Very truly yours,
Tom Lyon
Tom Lyon, Director
Supply Division

ETMCKnight:emp
G 5/10/51
Copies to: J. H. East, Jr. Region IV (2)
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
L. B. Moon
R. H. Mote
L. F. Strobel
T. Lyon

Directors reading file 4214 GSA
Br. reading file 4214 GSA
Files

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

OFFICE OF
REGIONAL DIRECTOR

REGION IV

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

April 27, 1951

Memorandum

To: Landon Strobel, Executive Secretary, Defense Minerals Administration

From: DMA Field Team, Region IV

Subject: DMA Docket 247, Tom Payne Lead-Zinc Mine, Cerrillos Mining District, Santa Fe County, New Mexico

We are attaching the original and two copies of the report on DMA Docket 246, Tom Payne Zinc-Lead Mine.

The Field Team concurs with the findings and recommendations in the report.

J. H. East, Jr.

J. H. East, Jr.

A. H. Koschmann

A. H. Koschmann

Attachments
One copy by air mail
Two copies by regular mail

s/p - a.

TOM PAYNE ZINC-LEAD MINE,
CERRILLOS MINING DISTRICT,
SANTA FE COUNTY, NEW MEXICO

DEFENSE MINERALS ADMINISTRATION REPORT

DMA DOCKET #247

APPROVED:

E. H. East, Jr.

A. H. Koschmann

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
JAMES BOYD, ADMINISTRATOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

CONFIDENTIAL

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

Mining Division
Region IV

April 27, 1951

Memorandum

To: DMA Field Team, Region IV

From: Chief, Mining Division

Subject: DMA Docket 247, Tom Payne Lead-Zinc Mine, Cerrillos Mining District, Santa Fe County, New Mexico

The report on the above docket has been reviewed. It is noted that the operation would require over-market price on lead and zinc for profitable operation and, therefore, it is recommended that the requested loan be denied. The examiners have not determined whether the operator is willing and financially able to enter into an exploration contract on a matching basis. Neither have they indicated whether further exploration has merit.

It may be the project should be reconsidered as exploration, however, because of the pressure from Senator Anderson for getting the report in, it is recommended it be forwarded and await further instruction from the Defense Minerals Administration.

I concur in the conclusions presented.

Paul T. Allsman

P. T. Allsman

Attachments

CONFIDENTIAL

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
200 New Customhouse
Denver 2, Colo.

April 27, 1951

Memorandum

To : Field Team, Region IV

From : Supervising Geologist, Colorado-Wyoming

Subject: DMA Docket 247 - Tom Payne Area, Cerillos Mining District

Attached is the geologic report (original and 11 copies) by Robert M. Hernon, covering the Cerillos Mining District, Santa Fe County, New Mexico.

A. H. Koschmann
A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Attachment

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P.O. Box 4126, University Station
Tucson, Arizona

April 23, 1951

Memorandum

To: Mr. A. H. Koschmann

From: District Supervisor, Arizona-New Mexico

Subject: Tom Payne Area, Cerillos Mining District, Santa Fe County, New Mexico - DMA Docket #247

Enclosed are original and 11 copies of the above report by Robert M. Hernon. Please return one copy to us and one to W. R. Storms.

The section on ore reserves is included in the engineering section, written by John H. Soulé, as Hernon and Soulé worked up reserve estimates together.

The report and recommendation that the loan be denied have my approval.

Charles A. Anderson

Charles A. Anderson
District Supervisor
Arizona-New Mexico

Enclosures 12

APR 1951
RECEIVED
U.S. Geological Survey
Mineral Deposits Branch
Denver

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By Robert M. Hernon[1] and John H. Soule[2]

The Santa Fe Lead-Zinc Mine, Limited, has applied for a $100,000 loan (DMA Docket 247) as authorized by the Defense Production Act of 1950. This loan is to be used to complete a small mill and prepare the Tom Payne mine for production of lead-zinc ores and concentrates.

The property is located in the Cerrillos Mining District, Santa Fe County, New Mexico, about 20 miles southwest of Santa Fe, New Mexico. Records show that a small production has been made from this property, largely in times of very high metal prices.

The following observations are based on an examination of the property and on material extracted from the files of the Geological Survey, Bureau of Mines, and Reconstruction Finance Corp.

1. The narrow veins of valuable minerals occupy only a fraction of the width of shear zones in the Tom Payne area;

2. Ore shoots range in width from about 6 inches to 3 feet, and average about one foot. The enclosing shear zones are commonly four to seven feet wide;

3. The stronger sheer zones may be traced for a few hundred feet and may extend as much as 2,000 feet;

4. The shear zones enclosing the veins dip steeply;

1/ Geologist, U. S. Geological Survey

2/ Mining Engineer, Bureau of Mines

5. Tonnage and calculated recovered grade of marketed ores from the Tom Payne mine for the years 1905-1949 are as follows:

Tons	Gold	Silver	Copper	Lead	Zinc
6,771	0.006	1.1	0.19	2.4	8.3

6. Measured ore (stockpile) at the Tom Payne mine totals 1,150 tons, a sample of which assays:

Gold	Silver	Copper	Lead	Zinc
0.03	1.0	0.10	3.25	5.9

7. Diluted indicated reserves total 10,152 tons. Grade is determinable at few points. Diluted grade given by available samples follows:

Gold	Silver	Copper	Lead	Zinc
0.008	1.62	0.14	4.68	8.60

8. The mine appears to make 7 tons of diluted ore (including indicated reserves) per foot of development work, excluding development raises;

9. The mine as developed on three levels over an average drift-length of 650 feet appears to make 6,700 tons of diluted ore, including indicated ore, per 100 feet of vertical depth;

10. The third level appears to be poorer in ore than the first and second levels. The main zone of oreshoots, however, may rake flatly to the south beyond the developed portion of the third level. Such possible rake is not established;

11. The inaccessibility of most of the third level, particularly reported extensions, makes calculation of inferred reserves unwarranted.

The maximum expectable inferred ore per 100 feet of depth, or per foot of development, is given in item 9.

The mine is equipped for a small operation but much rehabilitation work is necessary before any ore can be produced. In addition, considerable development work must be done to comply with New Mexico safety requirements.

An economic summary indicates that a profitable operation is not feasible and that losses will be smaller if the loan is denied and the ore shipped to a custom mill at Deming, New Mexico.

Small and sporadic past production indicates unsatisfactory mining conditions. The only real production resulted when exceptionally high metal prices prevailed during World War I. Small production before and since that time seems to indicate various test shipments that proved uneconomical. Operations then ceased until another operator again tried to operate the mine.

A sum of $100,000 is requested to prepare the mine and mill for production. Although this sum may be sufficient to complete this preparation, a study of the economic features indicates an unprofitable operation. This is further borne out by the unsuccessful operation in 1942-1944 when a $25,000 loan on the property was granted by the Reconstruction Finance Corporation. This loan was not repaid.

It is recommended that the request for $100,000 be denied.

Tom Payne Area
Cerillos Mining District
Santa Fe County, New Mexico

By Robert M. Hernon[1]

Geology

1/ Geologist, U. S. Geological Survey, Silver City, New Mexico

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ROCKS

The rocks of the Cerillos district include Cretaceous sandstone and shale, monzonite and trachyte porphyry intrusive into the Cretaceous sedimentary rocks, and Tertiary and Quaternary continental sediments and basalt flows. The Tertiary and Quaternary rocks are younger than the intrusives and the ore deposits.

The Cretaceous sandstone and shale dip at angles of 15 to 20 degrees in an easterly direction except for local disturbances along faults and intrusives. The monzonite mass is exposed over an area of about ten square miles; it may extend under later cover for an additional ten square miles or more of area. It is described rather uniformly in the literature as a laccolithic mass, based on marginal concordance and concordant peripheral intrusions. The evidence seems not to have established a floor under the intrusive, hence it seems entirely possible that it is a stock with a laccolithic expansion at and near the present surface.

These older rocks are unconformably overlapped by the Tertiary Santa Fe formation and Quaternary basalt flows. These formations have great areal extent in the region.

SHEAR ZONES

The shear zones that localize the zinc-lead ore deposits, range in strike from about north to N 30 E, and dip steeply west or vertically in most places. The croppings of the shear zones are generally covered by mantle but are exposed to view by numerous surface workings. They are one to six or seven feet wide where now exposed, and are spaced

from a few tens to several hundred feet apart. The individual stronger shear zones may be followed for distances from a few hundred to over two thousand feet.

The shear zones split in places as observed in plan and probably also in sectional view. Locally, there is some suggestion of echelon arrangement.

Examination of exposures of about ten shear zones in the Tom Payne area, indicates the Tom Payne shear zone is as strong or stronger than the others. It can be traced for about 2,000 feet on strike. Some of the shear zones are narrow and relatively weak where their croppings can be studied. The Tom Payne shear zone ranges in width from about one foot to six or seven feet. The monzonite, which is the principal host-rock in the Tom Payne area and in most of the Cerillos district, is sheared and crushed between the limiting walls of the shear zone. It is sericitized, argillized, and in places chloritized. Commonly there are small ellipsoidal remnants of unsheared monzonite included within anastomosing or linked shears. The main fault wall is fairly smooth with nearly horizontal mullions. It is marked by clay gouge that reaches a maximum observed thickness of 1½ feet. The clay is of swelling type. The shear zone may be delimited by fault walls on one or both sides. Minor fault "walls" are in places present within the shear zone.

VEINS

The veins are composed of more or less vuggy, crystalline or dense grayish quartz, carbonate, altered wall rock remnants, yellow to brown sphalerite, galena, and a small amount of pyrite. The veins where better grade and less silicious, commonly show clearcut to crude

banding. Where the dense type of quartz is dominant, banding is absent or inconspicuous and the sulfides are in spots as fillings of small irregular vugs.

The veins, as can now be observed, range in thickness from about one inch to 2½ feet. In most present exposures, a single vein is situated in the shear zone, commonly near one wall. If two veins are present, one is usually much narrower than the other, or both are narrow. Available information indicates that in stoped sections, the width of veins ranges from something less than one foot to about 2½ feet, with short wider swells. Stoll[1/] reports the ore shoots range in thickness "from about 6 inches to 3 feet, with an average of perhaps 1 foot."

The best ore shoots appear to be localized where the strike of the shear zone is more northerly than average, combined with a steeper-than-average dip.

The crushing within the shear zones is so intense that stopes have been taken the full width of the shear zone, or from four to seven feet wide. Unsubstantiated reports indicate that short sections as much as ten feet wide have been mined. Production figures suggest that the ore was considerably diluted by crushed monzonite of the shear zones. This crushed monzonite is almost barren where exposed to view; it may show some pyrite, seams and veinlets of quartz, and rare seams of valuable sulfides in addition to the main veins. The veins are in places somewhat shattered which may have increased the difficulties of mining the ore clean.

1/ Stoll, W. C., Strategic Minerals Investigations, Preliminary Report 3-205, 1946.

The geologic maps of the underground workings made by Mr. Stoll in August, 1945, were checked at numerous points and are believed to be objective pictures of the levels and the then accessible stopes. They give information on parts of drifts that are now stoped or inaccessible. Mr. McGhee states the workings now extend beyond the faces shown on Stoll's map. The work so indicated was performed after August, 1945, and is distributed as follows:

2nd Level north.....	150' of drive reported; of this 65' is now open and was mapped.
3rd Level south.....	170' of new drive reported-all inaccessible at present.
3rd Level north.....	40' of new drive reported-all inaccessible at present.

No reliable and accurate data concerning the geology of the vein in these extensions are at hand.

Records show that the veins of the Tom Payne are oxidized for a few tens to about one hundred feet below the surface. The base of strong oxidation is well above the water table. Examination of the veins on the 2nd level shows that partial oxidation extends in places to that level. The higher grade banded ores are in most places unoxidized as determined visually. The dense quartz veins in places do show some oxidation on the 2nd level.

TOM PAYNE ZINC-LEAD MINE
CERRILLOS MINING DISTRICT
SANTA FE COUNTY, NEW MEXICO

Engineering Report

By John H. Soule' 1/

Engineering

1/ Mining engineer, Silver City, N. Mex. Field Office, Ariz.-N. Mex. Branch, Mining Div., Region IV, Bureau of Mines

TOM PAYNE ZINC-LEAD MINE
CERRILLOS MINING DISTRICT
SANTA FE COUNTY, NEW MEXICO

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INTRODUCTION

The results set forth in this report were obtained from an examination of the Tom Payne mine and from information extracted from the files of the Geological Survey, Bureau of Mines, and the Reconstruction Finance Corp. The report is based upon a request for additional information by the Lead-Zinc Committee of the Defense Minerals Administration on an application for Governmental aid, Docket 247, submitted by Richard McGhee, managing partner of the Santa Fe Lead-Zinc mines, Ltd., of Santa Fe, New Mexico. This aid is available under the Defense Production Act of 1950.

The application submitted by McGhee requests a loan of $100,000. The object is to purchase equipment to complete a small mill, to furnish operating capital for the period before returns can be received from concentrate shipments, to hold a certain sum as a contingent reserve, and to purchase materials necessary in mining. A breakdown of the distribution of this sum is well presented in the applicant's proposal.

ACKNOWLEDGMENTS

Acknowledgment is made of sample data of J. F. Frost and Guy Ingersoll derived from the files of the Reconstruction Finance Corp., the geologic maps of W. G. Stoll of the Geological Survey, and the mineral production records furnished by the Statistical Branch of the Bureau of Mines; also for the time given by Richard McGhee of the Santa Fe Lead-Zinc Mines, Ltd. in showing the Defense

Minerals Administration's examiners around the Tom Payne property.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Tom Payne mine is located in the SW¼ sec. 30, T. 15 N., R. 8 E., in the Cerrillos Mining District, Santa Fe County, New Mexico (Figure 1). This mine is easily reached from the town of Cerrillos, New Mexico, by going west from Cerrillos to Waldo, a section point on the Santa Fe railroad. One mile west of Waldo, a right or north fork is taken for 3.7 miles to the mine. Access to the property also may be made from Santa Fe, New Mexico, by going south toward Albuquerque for about 12 miles, then turning east at the Gerrard Ranch sign and following the graded road to the mine. After two miles on this road all graded turns to the right are taken.

The mine is situated in the northwestern part of Los Cerrillos, a group of small hills about 17 miles southwest of Santa Fe. The area is moderately rugged. The collar of the Tom Payne shaft is located at an altitude of about 6,440 feet. The major peaks of the hills reach altitudes of 7,000 feet.

Vegetation consists mainly of mountain cedar, pinon pine, cactus, range grasses, and small shrubs. There is very little timber suitable for mining purposes. There are no permanent streams in the area. The water table may stand at an elevation of about 6,100 feet, as indicated in a well one-half mile southwest of the Tom Payne mine. This well may furnish sufficient water for the operation of a small mill.

Precipitation averages about 20 inches per year, largely as summer thunder showers. Winter snows usually are not severe. Temperatures range from 95 degrees in the summer to below zero in the winter but the extreme cold usually is not prolonged.

Other than one small shack, there are no living accommodations in the Tom Payne area. Housing is available at Madrid, about ten miles from the mine and three miles south of Cerrillos. Major mining supplies are available no closer than Albuquerque, about 50 miles to the southwest. The main line of the Atchison, Topeka and Santa Fe railroad passes through Waldo, five miles from the mine.

HISTORY AND PRODUCTION

Although earlier mining has been reported from the district, the discovery of rich silver ores near the Cash Entry mine in 1879 gave impetus to mining in the area and many claims were located. Desultory mining has continued since that time with the major production resulting in times of high lead and zinc prices.

The Tom Payne mine is the most highly developed in the northwestern part of the Cerrillos district. Some ore was reported shipped prior to 1905.[2/] The following table shows the production of the mine.

2/ Lindgren, Waldemar, Graton, L. C., and Chas. H. Gordon, The Ore Deposits of New Mexico. U. S. Geol. Survey Prof. Paper 68, 1910, p. 167.

Table 1.—Tom Payne Production
From Bureau of Mines Records

Year	Crude Ore	Concentrates	Marketed Metal				
			Oz. per Ton		Pounds		
			Au	Ag	Cu	Pb	Zn
1879-1905	"Some ore shipped" - U. S. G. S. Prof. Paper 68.						
1905-1910	None						
1911	51	—	16.58	1,951	4,498	11,178	—
1912	752	188	0.37	1,040	8,670	12,511	12,000
1913	None						
1914	48	—	2.91	611	7,575	495	—
1915	700	120	6.14	426	2,000	56,270	18,000 +
1916	1,373	407	6.04	1,920	—	132,604	244,571
1917	3,027	779	1.00	122	—	13,375	605,681
1918	172	—	—	—	—	16,376	118,243
1919-1925	None						
1926	33	—	1.70	393	1,126	28,049	—
1927-1942	None						
1943	138	—	2.2	207	496	13,729	26,121
1944	337	—	3.0	504	1,427	31,018	68,395
1945	53	—	—	104	219	6,195	12,218
1946-1948	None						
1949	87	—	—	134	—	7,331	18,374
1950-51	None						
Totals	6,771	1,494	39.94	7,412	26,011	329,131	1,123,603

OWNERSHIP AND EXTENT

The Tom Payne mine is located on the unpatented Tom Payne claim which is leased with option to purchase by the Santa Fe Lead-Zinc Mines, Ltd. This company is a limited partnership. The major partners are W. W. Moyer and Richard McGhee, both of Santa Fe, New Mexico. Additional ground in the area held by the above company makes the holdings total about 206 acres.

DESCRIPTION OF THE DEPOSIT 3/

The veins are situated within steeply-dipping shear zones that traverse monzonitic intrusive rock. Shear zones vary in width, where observed, from about one foot to six or seven feet. The width in stoped sections appears to be four to seven feet. Stoll reports the maximum thickness of the shear zone as ten feet. The wall rocks on either side of the shear zones appear strong but are in places sliced by a few steep to flat fractures.

Within the shear zones, the monzonite is generally in small ellipsoidal masses enclosed by shears. Stronger shears and the main fault wall or walls are marked by clay gouge, some samples of which swell when wet. Clay gouges range from seams to a maximum observed thickness of 1½ feet.

The veins within the shear zones contain practically all the valuable metals where they can now be observed. Veins may be on either wall or within the shear zones. Commonly, a single vein is present, but locally there are two. Total width of vein material

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3/ This section was written by R. M. Hernon.

ranges from a pinch to about two feet or a little more. Short swells of greater width are reported but none could be observed as stopes are taken from back of drift. Stoll, who had opportunity to observe stope backs during operations, reports the maximum thickness of veins to be three feet. Oreshoots vary in thickness and range from 25 to 300 feet in drift length.

The composition of the veins varies between two types: well banded to crudely banded coarse sulfides of relatively high grade, and dense gray to buff quartz with sulfides filling irregular small vugs. The ore minerals are yellow to brown sphalerite, galena, and a little chalcopyrite. Gangue minerals include quartz, carbonate, variable and apparently small amounts of pyrite, and altered monzonite (chlorite, sericite, clay minerals, and residual minerals of the monzonite).

ORE RESERVES

Measured Reserves

The only measured ore on the Tom Payne property is a stockpile at the north end of the mine dump. This stockpile was pointed out by Richard McGhee. Most of the material was reportedly derived from drifting on the third level. Reports credit this stockpile with from 4,000 to 6,000 tons of ore containing 5 percent lead and 12 percent zinc. Careful measurements of the stockpile show that it contains 1,150 tons of ore. Sampling of the stockpile, necessarily

confined to near surface material, shows that the grade of the material is as indicated in the following tabulation. Only a very small amount of the zinc was in oxidized form.

Stockpile (Measured Reserves)					
	Oz. per Ton		Percent		
Tons	Gold	Silver	Copper	Lead	Zinc
1,150	0.03	1.0	0.10	3.25	5.90

This quantity of ore checks quite closely with the amount of material removed from the third level as shown in W. C. Stoll's map (Figure 2). The grade of the material checks well with the other reserves when dilution in drifting is considered.[4/]

Indicated Reserves

No ore in place is assigned to the "measured class" because of its inaccessibility. All calculated blocks are assigned to the "indicated class."

Additional ore may exist on the third level, but critical evaluation is impossible because of the present inaccessibility of that level and lack of reliable data on 210 feet of drifts reportedly driven beyond the faces shown on Stoll's map. The stockpile, according to Mr. McGhee, represents drift rock from the third level. Messrs. Soule' and Dare[5/] estimate that this stockpile contains 1,150 tons. Their sampling, necessarily restricted to near surface material, indicates a grade as shown under the section on Measured Reserves.

4/ This section was written by Soule' and Hernon.
5/ Wilbert L. Dare, Bureau of Mines engineer, Silver City, N. Mex.

Mr. McGhee reports the third level drifts were driven over the full width of the shear zones. Hence, the stockpile would appear to represent about 300, or at most 350 feet of drift, a length about equal to that of drifts shown on Stoll's map (Fig. 2). Therefore, there is some question as to what parts of the third level are represented by the stockpile. It may be mainly from the drifts as shown by Stoll in which some vein material is known. It appears to be 50 percent too large to represent the 210 feet of reported drifts beyond the faces of Stoll's map. Considering the high dilution in drift rock, and experience in higher levels, the grade of the stockpile may well indicate sections of stoping ground on the third level.

The grade of indicated ore represents the unweighted average of all available sample assays. No samples of partly stoped sections are available because of inaccessibility of most stope backs and the fact that stopes were opened from the back of drifts. Therefore, the grade calculated from samples does not necessarily represent the true grade of indicated ore.

Because of the cited conditions, it is not feasible to list tonnages and grades for the individual blocks of indicated ore shown on the long section on figure 2. The tonnage calculated for the mine assumes a width equal to average vein width represented by all available samples. If data were adequate, considerable of the indicated

reserves undoubtedly would be classed as inferred ore, and some as measured ore.

As the mining method was largely stripping in cut-and-fill stopes, probably with some sorting, it is not possible to accurately estimate dilution. One cannot assume minimum mining width in calculating dilution since the full width of the shear zones is necessarily taken in mining.

The samples from which grade was calculated include some dilution. An arbitrary additional 50 percent tonnage dilution of ore with barren sheared monzonite is assumed. The indicated reserves when so diluted become:

Tons	Gold	Silver	Copper	Lead	Zinc
10,152	.008	1.62	0.14	4.68	8.60

The grade after dilution compares well in combined metal with the grade of past production if the latter is corrected for losses during treatment. The lead-zinc ratio is higher in the reserves than in past production. Production records show this difference is largely localized in about 3,000 tons of ore produced in 1917. That ore was either low in lead, or lead was not recovered for some reason, or lead was not fully credited to the Tom Payne mine. A small body of nearly lead-free zinc ore has been reported.

It appears probable that available samples shown in Table 2 indicate a lead-zinc ratio well above the actual. The recovered grade of 1905-1949 production that follows, appears to indicate

a lead-zinc ratio somewhat below the actual:

Tons	Gold	Silver	Copper	Lead	Zinc
6,771	.006	1.1	0.19	2.4	8.3

Inferred Ore 6/

The total positively known development, excluding raises, includes 300 feet of shaft, 230 feet of ventilation shafts, 2,002 feet of drifts, and 70 feet of crosscuts, a total of 2,622 feet. The total of diluted produced ore, diluted drift rock in stockpile, and arbitrarily diluted indicated reserves totals 18,073 tons. The mine thus appears to make about seven tons of diluted ore per foot of development work, excluding development raises. Over an average drift length of 650 feet on three levels, it makes about 6,700 tons of diluted ore, including indicated ore, per 100 feet of depth. These figures can be regarded as the maximum expectable in any future development program.

The inaccessibility of the third level and lack of records concerning the reported extensions of this level beyond the faces of Stoll's map, prevent adequate comparison of its ore-making possibilities with the experience on the first and second levels. The general impression received from study of the long section (Fig. 2) is that the third level is poorer in ore than levels above. A possibility exists that the zone of ore shoots rakes flatly down to the south mainly beyond third level development. It is equally possible that the zone of oreshoots is failing in depth. Calculation of

6/ This section was written by R. M. Hernon.

inferred ore reserves is not justified. The maximum expectable tons per foot of development, or per 100-foot lift, and the interpretations of oreshoot extension or failure given, are about all the facts warrant in view of inaccessibility of mine workings and the poor past history of the property.

Table 2.—Sample Analyses

Assays of samples marked TP were taken from the Tom Payne mine by J. F. Frost and Guy Ingersoll (from R.F.C. files). Samples were taken at various times in 1943 and 1944 as mining progressed. Samples marked DMA were taken by the Field Team in 1951. Sample locations are shown on Figure 2.

Assay No.	Lead	Zinc	Gold	Silver	Copper	Width of mineralized area
TP-1	19.5	15.8	-	-	.25	1.3 feet
TP-2	none	.2	-	-	trace	3.0
TP-3	12.0	15.4	.02	3.9	-	1.6
TP-4	8.6	23.3	.01	2.2	-	3.2
TP-5	17.7	13.0	.10	5.2	-	1.1
TP-6	12.1	18.9	.01	3.3	-	1.1
TP-10	4.6	24.8	.02	2.2	.20	.9
TP-11	11.6	29.3	.02	3.0	.30	1.0
TP-21	11.1	18.9	.01	3.0	.40	1.1
TP-22	9.5	10.3	.01	2.4	.48	1.1
TP-23	3.3	8.3	trace	1.1	.15	2.0
TP-24	5.7	11.0	.01	2.0	.20	1.6
TP-25	16.6	26.9	.01	2.0	.28	1.5
TP-26	5.3	13.8	.01	2.1	.10	2.0
TP-27	2.0	7.3	.01	1.2	.15	5.3
TP-28	3.1	8.8	.01	1.3	.25	3.3
TP-29	9.1	7.8	.02	4.3	.20	1.5
TP-40	2.6	13.8	.05	2.0	.25	1.1
TP-41	5.0	11.0	.01	2.2	.40	1.0
TP-42	3.7	8.1	.01	1.4	.20	4.0
TP-100	5.7	20.2	.01	4.1	-	1.2
TP-101	5.0	11.5	.01	1.6	-	1.4
TP-102	4.2	7.5	trace	1.1	-	1.9
TP-103	3.6	5.2	trace	.8	-	2.6
TP-104	15.9	20.3	.03	6.6	-	1.0
TP-105	7.5	7.5	.01	3.8	-	3.0
TP-106	3.4	3.4	.01	2.2	-	1.2
TP-107	5.9	7.3	.01	2.0	-	1.2
TP-108	8.6	16.0	.01	3.1	-	2.5

Table 2.--Sample Analyses, cont'd

Assay No.	Lead	Zinc	Gold	Silver	Copper	Width of mineralized area
TP-109	7.3	13.5	.01	2.0	-	2.4 feet
TP-150	3.0	6.1	trace	1.0	-	1.4
TP-151	11.6	30.3	.01	5.0	-	1.6
TP-152	3.4	7.2	trace	1.4	-	1.2
TP-156	1.3	2.0	trace	.3	-	3.0
TP-157	15.6	15.1	.01	8.4	-	1.0
TP-158	1.0	.5	trace	.5	-	1.1
TP-210	6.6	18.8	.01	2.9	-	.9
TP-211	9.5	16.6	.01	2.7	-	1.5
DMA-1	2.65	7.95	.04	1.15	0.12	2.3
DMA-2	3.25	5.90	.03	1.00	0.10	Stockpile

PRESENT STATUS

The Tom Payne mine is developed by a main shaft reported to be 350 feet deep. This depth could not be verified because of water just below the third level and reliable maps show this shaft to be about 307 feet deep. These maps show a total of about 1,957 feet of drifting and an additional 65 feet of subsequent work was measured on the second level north. Most of the reported additional drifting in the second and third levels could not be verified because of inaccessibility (see Fig. 2).

The main shaft is fully equipped with headframe and gasoline hoist. Only minor repairs would be necessary to hoist through this shaft. A small inadequate gasoline compressor is located near the shaft collar. Complete rehabilitation of all drifts is necessary and the reclamation of the caved portions will be about as costly to reclaim as new drifting. There is insufficient stoping ground

available in areas of easy reclamation to furnish ore to a 50-ton mill.

Additional mine openings are necessary to comply with New Mexico safety regulations. A second escape passage and airway is mandatory, especially because of the caving nature of the ground in the lower parts of the mine. This is equivalent to a new shaft from the surface to the levels being mined. Connections from this escapeway to the workings are necessary.

PRODUCTION PLAN

The operators of the Tom Payne mine plan to mine and mill 50 tons of zinc-lead ore per day if a $100,000 loan is granted to rehabilitate the mine and complete a small mill. Deterrents or disadvantages to this plan are listed as follows:

1. The oreshoots within the vein are very narrow and generally of short length. Considerable rehabilitation of present mine workings, as well as additional development work, is necessary to provide enough stopes to produce 50 tons of ore per day. In addition, as previously mentioned, considerable extra development must be done to comply with State safety requirements;

2. Because the oreshoots are narrow and relatively small laterally, very high mining costs are to be expected as well as considerable dilution of the ore. Also, the very bad nature of the ground in the lower levels where considerable moisture was noted requires considerable extra care and material to render a safe working place. This will increase the costs over the high costs attendant to mining small and narrow oreshoots;

3. The ore reserves shown by the considerable amount of development work is far below usually accepted ratios. This means that the already high mining costs are further increased by adding a disproportionate amount of development costs;

4. The advantages of completing the small nearby mill are overcome by the large amortization costs imposed on the small ore reserves.

5. The scheduled organization as proposed in the application is unnecessarily top-heavy. One qualified technical man would be capable of handling all of the operations of mining, milling, and engineering. The additional personnel outlined in the application will tend to further increase the costs.

Based on the above facts and observations, the following economic summary is tabulated. Also, no allowance is made for the usual development work necessary to keep finding new ore.

Table 3.--Economic Summary

Per ton, based on present prices of ore, materials and services and upon the ore reserves as calculated.

	Mill at mine Loan granted	Ship to mill at Deming Loan denied
Mine reclamation	$0.91	$0.91
New development for Safety requirements	3.40	3.40
Mining costs	10.48	10.48
Ore to near mill or RR	0.25	0.60
RR freight on ore to mill	0.00	5.25
Milling charge	3.50	4.00
Milling loss (metallurgical)	6.87	6.87
Smelting charges, incl. freight, marketing & refining charges	10.00	10.00
Smelting loss (metallurgical)	3.89	3.89
Repayment of capital	9.29	0.00
Supervision	1.30	1.30
Royalty	4.58	4.58
Insurance and taxes	.40	.35
Total cost per ton of ore	$54.87	$51.63
Present value per ton of ore	45.81	45.81
Less per ton of ore	$9.06	$5.82
Total loss on operation	$102,396.12	$75,777.64

It is evident from the above table that an economic operation of the Tom Payne mine is not feasible and that a lesser loss on the operation is indicated if the loan is denied and the attendant amortization costs are removed. Because the reserves in the Tom Payne mine are very small and the contribution to the National economy and effort is so minute as to be insignificant, and because such an operation will be conducted at a loss, the proposed loan of $100,000 should be denied.

CONCLUSIONS

The Tom Payne mine does not merit the proposed loan and gives little promise of sufficient ore to backlog a mill. This is emphasized by the small past production, the present small ore reserves and the indicated unprofitable operation under present economic conditions.

RECOMMENDATIONS

The findings outlined in this report show that an unprofitable operation will result at the Tom Payne mine whether or not a loan is granted. It further shows that lesser losses would be sustained if the loan were denied. The contribution of metals to the Nation's emergency need would be negligible and because of this and the previously stated observations, the Defense Minerals Administration's examiners recommend that the loan be denied.

April 1951

CONFIDENTIAL LETTER to accompany DMA Docket #247, Tom Payne Zinc-Lead mine, Cerrillos Mining District, Santa Fe County, New Mexico.

COMPETENCE OF APPLICANTS

Richard McGhee, the managing partner of the Santa Fe Lead-Zinc Mines, Limited, claims to have had considerable experience in mining in Nevada and California as well as New Mexico. Nothing is known of his work outside of New Mexico. After spending the best part of a day with McGhee, seeing some of the work he supervised, and of hearing about him, the following opinions are deduced.

1. McGhee shows construction ability, as some of the work done under his supervision is well done.

2. McGhee is a practical miner and seems to lack the engineering and business sense or knowledge about what constitutes a successful mining operation.

3. McGhee is pleasant although talkative. There is no reason to doubt his honesty and sincerity and his belief of a successful operation on the Tom Payne mine is due more to hope than to an analysis of the fundamental data.

Nothing is known about the ability of W. W. Moyer, a partner in the firm and office manager for the mine. He is now engaged in handling oil and gas leases.

Paul Rhinehart, the suggested mine superintendent, is well known as a practical miner in the state but is not technically trained.

Two other men are proposed for the operating staff, of which one Mr. Bemis was mill superintendent for the American Metals Company's

operation at Tererro, New Mexico. He seems fully qualified.

The above operating staff is far too large for a 50-ton per day operation of the Tom Payne mine and, if salaries are paid to the staff, increased supervisory costs will result. One competent, qualified, technically-trained man would be able to handle an operation of this type.

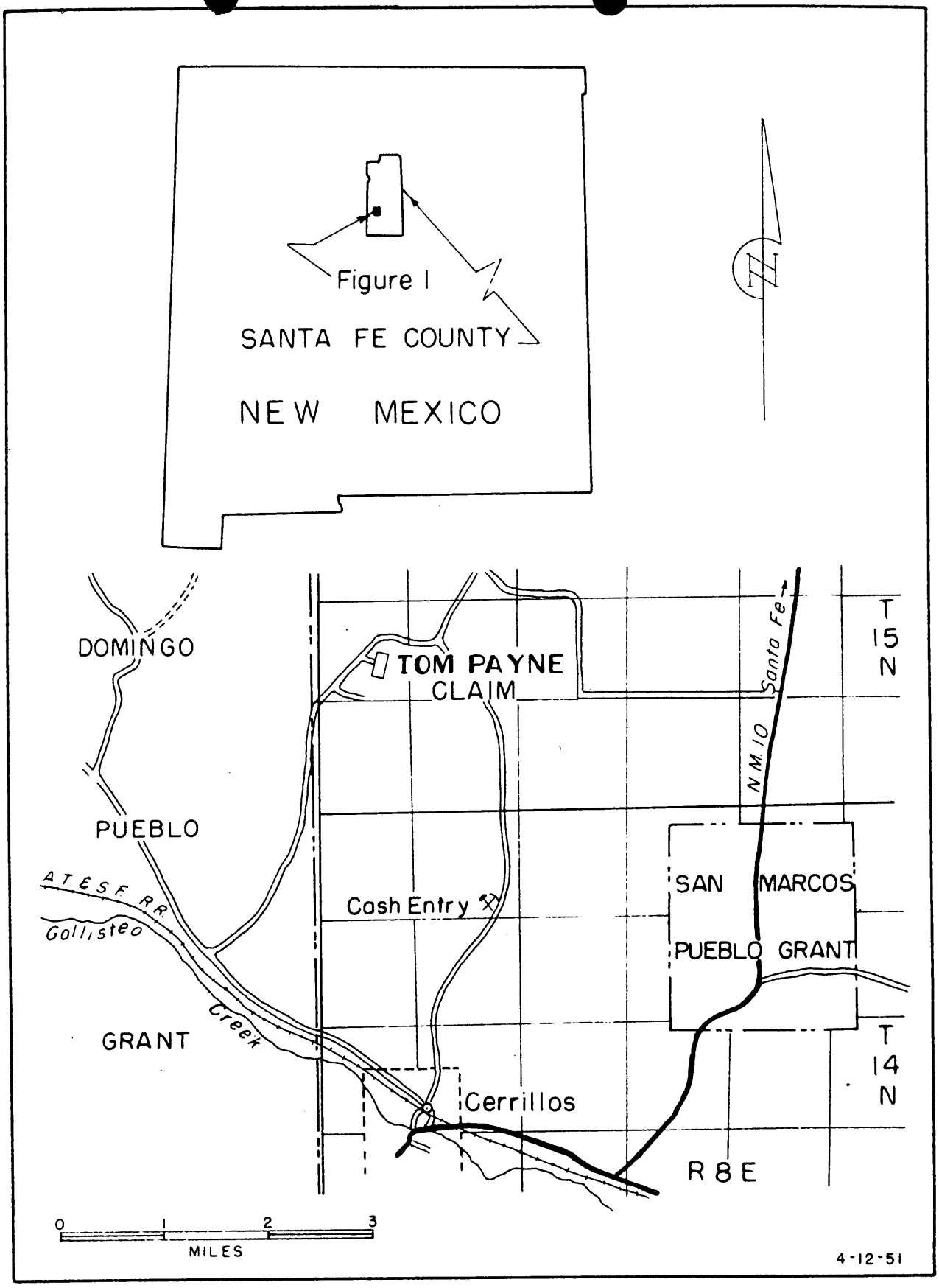

Figure 1. – Location map, Tom Payne lead-zinc deposits.

Assays of 38 samples taken from the Tom Payne mine by J. F. Frost and Guy Ingersoll. (From RFC files.) Assays taken at various times in 1943 and 1944 as mining progressed.

Assay no.	Lead	Zinc	Gold	Silver	Copper	Width of mineralized area.
TP-1	19.5	15.8			.25	1.3 feet
TP-2	none	.2			trace	3.0
TP-3	12.0	15.4	.02	3.9		1.6
TP-4	8.6	23.3	.01	2.2		3.2
TP-5	17.7	13.0	.10	5.2		1.1
TP-6	12.1	18.9	.01	3.3		1.1
TP-10	4.6	24.8	.02	2.2	.20	.9
TP-11	11.6	29.3	.02	3.0	.30	1.0
TP-21	11.1	18.9	.01	3.0	.40	1.1
TP-22	9.5	10.3	.01	2.4	.48	1.1
TP-23	3.3	8.3	trace	1.1	.15	2.0
TP-24	5.7	11.0	.01	2.0	.20	1.6
TP-25	16.6	26.9	.01	2.0	.28	1.5
TP-26	5.3	13.8	.01	2.1	.10	2.0
TP-27	2.0	7.3	.01	1.2	.15	5.3
TP-28	3.1	8.8	.01	1.3	.25	3.3
TP-29	9.1	7.8	.02	4.3	.20	1.5
TP-40	2.6	13.8	.05	2.0	.25	1.1
TP-41	5.0	11.0	.01	2.2	.40	1.0
TP-42	3.7	8.1	.01	1.4	.20	4.0
TP-100	5.7	20.2	.01	4.1		1.2
TP-101	5.0	11.5	.01	1.6		1.4
TP-102	4.2	7.5	trace	1.1		1.9
TP-103	3.6	5.2	trace	.8		2.6
TP-104	15.9	20.3	.03	6.6		1.0
TP-105	7.5	7.5	.01	3.8		3.0
TP-106	3.4	3.4	.01	2.2		1.2
TP-107	5.9	7.3	.01	2.0		1.2
TP-108	8.6	16.0	.01	3.1		2.5
TP-109	7.3	13.5	.01	2.0		2.4
TP-150	3.0	6.1	trace	1.0		1.4
TP-151	11.6	30.3	.01	5.0		1.6
TP-152	3.4	7.2	trace	1.4		1.2
TP-156	1.3	2.0	trace	.3		3.0
TP-157	15.6	15.1	.01	8.4		1.0
TP-158	1.0	.5	trace	.5		1.1
TP-210	6.6	18.8	.01	2.9		.9
TP-211	9.5	16.6	.01	2.7		1.5

Notes on Tom Payne mine from RFC files.

Andrew Stewart obtained a loan of $25,000 from RFC, which was spent on equipment, sinking shaft 100 feet, drifts on the 300' level, and extending drifts on the 200' and 100' levels. Mr. McGhee was mine foreman then. The mine was not profitable beacuse the vein was narrow and there was much heavy ground and irregularities in the vein, work under the RFC loan was not efficient (apparently Mr. McGhee could have produced cleaner ore at lower cost, according to the RFC engineer), and the marketing cost of the ore was high. Mr. Stewart believed that a 50 ton mill nearby designed especially for the Tom Payne ores was necessary in order to break even.

The lease on the mine was transferred to Sierra Metals Corp, who planned to erect a mill and operate themine. McGhee was appointed superintendent of the mine under Sierra Metals. That company was rather poorly run, and didn't get very far with a mill. The lease with Sierra Metals was cancelled and the mine, and the mine was released to McGhee.

Some ore apparently was developed in the mine, but the operation was unprofitable and the lease with Sierra Metals was cancelled. The RFC lean was a loss except for salvage value of equipment, estimated at $4,500. Mr. McGhee, who had released the mine, offered to buy the equipment, so the RFC left it there. As far as I could tell he never did get together enough to.buy it.

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6-28-44 -

100 level N. drift - [illegible] 4" - 8" [illegible]
for distance of 70'. - [illegible] 11" [illegible] for
30' - 40' barren.

200 north level - 100' [illegible] shaft is narrow [illegible] 20' extending [illegible]
old stopes - [illegible] (26-27-28)
heavy [illegible] of 200 north drift [illegible]
S. 105 - 106 - 107 [illegible]

200 S. level - old [illegible] 10' -
heavy stope at end [illegible]
300 N level - some [illegible] shaft [illegible] chess int
along N shaft. Stones [illegible] [illegible] at N. face.

300 S. - shaft stopes [illegible] 75' S. - face of
drift showed ore [illegible].

[illegible] all -

The RFC engineers had shown 6109 tons of ore - indicated on map by dashed pencil lines.

A	1572
B	1987
C	1400
D	1150
	6109 tons

REGIONAL DIRECTOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

April 27, 1951

Memorandum

To: Landon Strobel, Executive Secretary, Defense Minerals Administration

From: DMA Field Team, Region IV

Subject: DMA Docket 247, Tom Payne Lead-Zinc Mine, Cerrillos Mining District, Santa Fe County, New Mexico

We are attaching the original and two copies of the report on DMA Docket 246, Tom Payne Zinc-Lead Mine.

The Field Team concurs with the findings and recommendations in the report.

J. H. East, Jr.

A. H. Koschmann

Attachments
One copy by air mail
Two copies by regular mail (with brochure)

TOM PAYNE ZINC-LEAD MINE,
CERRILLOS MINING DISTRICT,
SANTA FE COUNTY, NEW MEXICO

DEFENSE MINERALS ADMINISTRATION REPORT

DMA DOCKET #247

APPROVED:

J. H. East, Jr.

A. H. Koschmann

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
JAMES BOYD, ADMINISTRATOR

Mining Division
Region IV

April 27, 1951

Memorandum

To: DMA Field Team, Region IV

From: Chief, Mining Division

Subject: DMA Docket 247, Tom Payne Lead-Zinc Mine, Cerrillos Mining District, Santa Fe County, New Mexico

The report on the above docket has been reviewed. It is noted that the operation would require over-market price on lead and zinc for profitable operation and, therefore, it is recommended that the requested loan be denied. The examiners have not determined whether the operator is willing and financially able to enter into an exploration contract on a matching basis. Neither have they indicated whether further exploration has merit.

It may be the project should be reconsidered as exploration, however, because of the pressure from Senator Anderson for getting the report in, it is recommended it be forwarded and await further instruction from the Defense Minerals Administration.

I concur in the conclusions presented.

Paul T. Allsman

P. T. Allsman

Attachments

April 25, 1951

Air Mail

Memorandum

To : Paul T. Allsman, Denver, Colorado

From : Chief, Arizona-New Mexico Br., Mining Div., Region IV

Subject : Final report, DMA Docket 247, Tom Payne Mine, Santa Fe County, N. Mex.

Enclosed are original and 11 copies of the above report by R. M. Hernon of the Geological Survey and J. H. Soule of the Bureau of Mines. C. A. Anderson has read this report and has approved the section on Summary, Conclusions and Recommendations, as well as the remainder of the report.

This report has my approval.

The brochure material, including the confidential R.F.C. matter, is enclosed.

Walter R. Storms

CC P. T. Allsman
C. A. Anderson
DMA-247
DF

WRStorms:frj

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P.O. Box 4126, University Station
Tucson, Arizona

April 23, 1951

Memorandum

To: Mr. A. H. Koschmann

From: District Supervisor, Arizona-New Mexico

Subject: Tom Payne Area, Cerillos Mining District, Santa Fe County, New Mexico - DMA Docket #247

Enclosed are original and 11 copies of the above report by Robert L. Hernon. Please return one copy to us and one to W. R. Storms.

The section on ore reserves is included in the engineering section, written by John H. Soulé, as Hernon and Soulé worked up reserve estimates together.

The report and recommendation that the loan be denied have my approval.

Charles A. Anderson
District Supervisor
Arizona-New Mexico

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SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By Robert M. Bureau[1] and John H. Soule[2]

The Santa Fe Lead-Zinc Mine, Limited, has applied for a $100,000 loan (DMA Docket 247) as authorized by the Defense Production Act of 1950. This loan is to be used to complete a small mill and prepare the Tom Payne mine for production of lead-zinc ores and concentrates.

The property is located in the Cerrillos Mining District, Santa Fe County, New Mexico, about 20 miles southwest of Santa Fe, New Mexico. Records show that a small production has been made from this property, largely in times of very high metal prices.

The following observations are based on an examination of the property and on material extracted from the files of the Geological Survey, Bureau of Mines, and Reconstruction Finance Corp.

1. The narrow veins of valuable minerals occupy only a fraction of the width of shear zones in the Tom Payne area;

2. Ore shoots range in width from about 6 inches to 3 feet, and average about one foot. The enclosing shear zones are commonly four to seven feet wide;

3. The stronger shear zones may be traced for a few hundred feet and may extend as much as 2,000 feet;

4. The shear zones enclosing the veins dip steeply;

1/ Geologist, U. S. Geological Survey

2/ Mining Engineer, Bureau of Mines

5. Tonnage and calculated recovered grade of marketed ores from the Tom Payne mine for the years 1905-1949 are as follows:

Tons	Gold	Silver	Copper	Lead	Zinc
6,771	0.006	1.1	0.19	2.4	8.3

6. Measured ore (stockpile) at the Tom Payne mine totals 1,150 tons, a sample of which assays:

Gold	Silver	Copper	Lead	Zinc
0.03	1.0	0.10	3.25	5.9

7. Diluted indicated reserves total 10,152 tons. Grade is determinable at few points. Diluted grade given by available samples follows:

Gold	Silver	Copper	Lead	Zinc
0.088	1.62	0.14	4.68	8.60

8. The mine appears to make 7 tons of diluted ore (including indicated reserves) per foot of development work, excluding development raises;

9. The mine as developed on three levels over an average drift-length of 650 feet appears to make 6,700 tons of diluted ore, including indicated ore, per 100 feet of vertical depth;

10. The third level appears to be poorer in ore than the first and second levels. The main zone of oreshoots, however, may rake flatly to the south beyond the developed portion of the third level. Such possible rake is not established;

11. The inaccessibility of most of the third level, particularly reported extensions, makes calculation of inferred reserves unwarranted.

The maximum expectable inferred ore per 100 feet of depth, or per foot of development, is given in item 9.

The mine is equipped for a small operation but much rehabilitation work is necessary before any ore can be produced. In addition, considerable development work must be done to comply with New Mexico safety requirements.

An economic summary indicates that a profitable operation is not feasible and that losses will be smaller if the loan is denied and the ore shipped to a custom mill at Deming, New Mexico.

Small and sporadic past production indicates unsatisfactory mining conditions. The only real production resulted when exceptionally high metal prices prevailed during World War I. Small production before and since that time seems to indicate various test shipments that proved uneconomical. Operations then ceased until another operator again tried to operate the mine.

A sum of $100,000 is requested to prepare the mine and mill for production. Although this sum may be sufficient to complete this preparation, a study of the economic features indicates an unprofitable operation. This is further borne out by the unsuccessful operation in 1942-1944 when a $25,000 loan on the property was granted by the Reconstruction Finance Corporation. This loan was not repaid.

It is recommended that the request for $100,000 be denied.

Tom Payne Area
Cerillos Mining District
Santa Fe County, New Mexico

By Robert M. Hornon[1]

Geology

Geology

1/ Geologist, U. S. Geological Survey, Silver City, New Mexico

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ROCKS

The rocks of the Cerillos district include Cretaceous sandstone and shale, monzonite and trachyte porphyry intrusive into the Cretaceous sedimentary rocks, and Tertiary and Quaternary continental sediments and basalt flows. The Tertiary and Quaternary rocks are younger than the intrusives and the ore deposits.

The Cretaceous sandstone and shale dip at angles of 15 to 20 degrees in an easterly direction except for local disturbances along faults and intrusives. The monzonite mass is exposed over an area of about ten square miles; it may extend under later cover for an additional ten square miles or more of area. It is described rather uniformly in the literature as a laccolithic mass, based on marginal concordance and concordant peripheral intrusions. The evidence seems not to have established a floor under the intrusive, hence it seems entirely possible that it is a stock with a laccolithic expansion at and near the present surface.

These older rocks are unconformably overlapped by the Tertiary Santa Fe formation and Quaternary basalt flows. These formations have great areal extent in the region.

SHEAR ZONES

The shear zones that localize the zinc-lead ore deposits, range in strike from about north to N 30 E, and dip steeply west or vertically in most places. The croppings of the shear zones are generally covered by mantle but are exposed to view by numerous surface workings. They are one to six or seven feet wide where now exposed, and are spaced

from a few tens to several hundred feet apart. The individual stronger shear zones may be followed for distances from a few hundred to over two thousand feet.

The shear zones split in places as observed in plan and probably also in sectional view. Locally, there is some suggestion of echelon arrangement.

Examination of exposures of about ten shear zones in the Tom Payne area, indicates the Tom Payne shear zone is as strong or stronger than the others. It can be traced for about 2,000 feet on strike. Some of the shear zones are narrow and relatively weak where their croppings can be studied. The Tom Payne shear zone ranges in width from about one foot to six or seven feet. The monzonite, which is the principal host-rock in the Tom Payne area and in most of the Cerillos district, is sheared and crushed between the limiting walls of the shear zone. It is sericitized, argillized, and in places chloritized. Commonly there are small ellipsoidal remnants of unsheared monzonite included within anastomosing or linked shears. The main fault wall is fairly smooth with nearly horizontal mullions. It is marked by clay gouge that reaches a maximum observed thickness of 1½ feet. The clay is of swelling type. The shear zone may be delimited by fault walls on one or both sides. Minor fault "walls" are in places present within the shear zone.

VEINS

The veins are composed of more or less vuggy, crystalline or dense grayish quartz, carbonate, altered wall rock remnants, yellow to brown sphalerite, galena, and a small amount of pyrite. The veins where better grade and less silicious, commonly show clearcut to crude

banding. Where the dense type of quartz is dominant, banding is absent or inconspicuous and the sulfides are in spots as fillings of small irregular vugs.

The veins, as can now be observed, range in thickness from about one inch to 2½ feet. In most present exposures, a single vein is situated in the shear zone, commonly near one wall. If two veins are present, one is usually much narrower than the other, or both are narrow. Available information indicates that in stoped sections, the width of veins ranges from something less than one foot to about 2½ feet, with short wider swells. Stoll[1/] reports the ore shoots range in thickness "from about 6 inches to 3 feet, with an average of perhaps 1 foot."

The best ore shoots appear to be localized where the strike of the shear zone is more northerly than average, combined with a steeper-than-average dip.

The crushing within the shear zones is so intense that stopes have been taken the full width of the shear zone, or from four to seven feet wide. Unsubstantiated reports indicate that short sections as much as ten feet wide have been mined. Production figures suggest that the ore was considerably diluted by crushed monzonite of the shear zones. This crushed monzonite is almost barren where exposed to view; it may show some pyrite, seams and veinlets of quartz, and rare seams of valuable sulfides in addition to the main veins. The veins are in places somewhat shattered which may have increased the difficulties of mining the ore clean.

1/ Stoll, W. C., Strategic Minerals Investigations, Preliminary Report 3-205, 1946.

The geologic maps of the underground workings made by Mr. Stoll in August, 1945, were checked at numerous points and are believed to be objective pictures of the levels and the then accessible stopes. They give information on parts of drifts that are now stoped or inaccessible. Mr. McGhee states the workings now extend beyond the faces shown on Stoll's map. The work so indicated was performed after August, 1945, and is distributed as follows:

2nd Level north.....	150' of drive reported; of this 65' is now open and was mapped.
3rd Level south.....	170' of new drive reported-all inaccessible at present.
3rd Level north.....	40' of new drive reported-all inaccessible at present.

No reliable and accurate data concerning the geology of the vein in these extensions are at hand.

Records show that the veins of the Tom Payne are oxidized for a few tens to about one hundred feet below the surface. The base of strong oxidation is well above the water table. Examination of the veins on the 2nd level shows that partial oxidation extends in places to that level. The higher grade banded ores are in most places unoxidized as determined visually. The dense quarts veins in places do show some oxidation on the 2nd level.

TOM PAINE ZINC-LEAD MINE
CERRILLOS MINING DISTRICT
SANTA FE COUNTY, NEW MEXICO

Engineering Report

By John H. Soule' 1/

Engineering

1/ Mining engineer, Silver City, N. Mex. Field Office, Ariz.-N. Mex. Branch, Mining Div., Region IV, Bureau of Mines

TOM PAYNE ZINC-LEAD MINE
CERRILLOS MINING DISTRICT
SANTA FE COUNTY, NEW MEXICO

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INTRODUCTION

The results set forth in this report were obtained from an examination of the Tom Payne mine and from information extracted from the files of the Geological Survey, Bureau of Mines, and the Reconstruction Finance Corp. The report is based upon a request for additional information by the Lead-Zinc Committee of the Defense Minerals Administration on an application for Governmental aid, Docket 247, submitted by Richard McGhee, managing partner of the Santa Fe Lead-Zinc mines, Ltd., of Santa Fe, New Mexico. This aid is available under the Defense Production Act of 1950.

The application submitted by McGhee requests a loan of $100,000. The object is to purchase equipment to complete a small mill, to furnish operating capital for the period before returns can be received from concentrate shipments, to hold a certain sum as a contingent reserve, and to purchase materials necessary in mining. A breakdown of the distribution of this sum is well presented in the applicant's proposal.

ACKNOWLEDGMENTS

Acknowledgment is made of sample data of J. F. Frost and Guy Ingersoll derived from the files of the Reconstruction Finance Corp., the geologic maps of W. G. Stull of the Geological Survey, and the mineral production records furnished by the Statistical Branch of the Bureau of Mines; also for the time given by Richard McGhee of the Santa Fe Lead-Zinc Mines, Ltd. in showing the Defense

Minerals Administration's examiners around the Tom Payne property.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Tom Payne mine is located in the SW¼ sec. 30, T. 15 N., R. 8 E., in the Cerrillos Mining District, Santa Fe County, New Mexico (Figure 1). This mine is easily reached from the town of Cerrillos, New Mexico, by going west from Cerrillos to Waldo, a section point on the Santa Fe railroad. One mile west of Waldo, a right or north fork is taken for 3.7 miles to the mine. Access to the property also may be made from Santa Fe, New Mexico, by going south toward Albuquerque for about 12 miles, then turning east at the Gerrard Ranch sign and following the graded road to the mine. After two miles on this road all graded turns to the right are taken.

The mine is situated in the northwestern part of Los Cerrillos, a group of small hills about 17 miles southwest of Santa Fe. The area is moderately rugged. The collar of the Tom Payne shaft is located at an altitude of about 6,440 feet. The major peaks of the hills reach altitudes of 7,000 feet.

Vegetation consists mainly of mountain cedar, piñon pine, cactus, range grasses, and small shrubs. There is very little timber suitable for mining purposes. There are no permanent streams in the area. The water table may stand at an elevation of about 6,100 feet, as indicated in a well one-half mile southwest of the Tom Payne mine. This well may furnish sufficient water for the operation of a small mill.

Precipitation averages about 20 inches per year, largely as summer thunder showers. Winter snows usually are not severe. Temperatures range from 95 degrees in the summer to below zero in the winter but the extreme cold usually is not prolonged.

Other than one small shack, there are no living accommodations in the Tom Payne area. Housing is available at Madrid, about ten miles from the mine and three miles south of Cerrillos. Major mining supplies are available no closer than Albuquerque, about 50 miles to the southwest. The main line of the Atchison, Topeka and Santa Fe railroad passes through Waldo, five miles from the mine.

HISTORY AND PRODUCTION

Although earlier mining has been reported from the district, the discovery of rich silver ores near the Cash Entry mine in 1879 gave impetus to mining in the area and many claims were located. Desultory mining has continued since that time with the major production resulting in times of high lead and zinc prices.

The Tom Payne mine is the most highly developed in the northwestern part of the Cerrillos district. Some ore was reported shipped prior to 1905.[2/] The following table shows the production of the mine.

2/ Lindgren, Waldemar, Graton, L. C., and Chas. H. Gordon, The Ore Deposits of New Mexico. U. S. Geol. Survey Prof. Paper 68, 1910, p. 167.

Table 1.—Ten Pacos Production
From Bureau of Mines Records

Year	Crude Ore	Concentrates	Marketed Metal: Oz. per Ton Au	Ag	Pounds Cu	Pb	Zn
1879-1905	"Some ore shipped" - U. S. G. S. Prof. Paper 68.						
1905-1910	None						
1911	51	—	16.58	1,951	4,498	11,178	—
1912	752	188	0.37	1,040	8,670	12,511	12,000
1913	None						
1914	48	—	2.91	611	7,575	495	—
1915	700	120	6.14	426	2,000	56,270	18,000
1916	1,373	407	6.04	1,920	—	132,604	244,571
1917	3,027	779	1.00	122	—	13,375	605,681
1918	172	—	—	—	—	16,376	118,243
1919-1925	None						
1926	33	—	1.70	393	1,126	28,049	—
1927-1942	None						
1943	138	—	2.2	297	496	13,729	26,121
1944	337	—	3.0	504	1,427	31,018	68,395
1945	53	—	—	104	219	6,195	12,218
1946-1948	None						
1949	87	—	—	134	—	7,331	18,374
1950-51	None						
Totals	6,771	1,494	39.94	7,412	26,011	329,131	1,123,603

OWNERSHIP AND EXTENT

The Tom Payne mine is located on the unpatented Tom Payne claim which is leased with option to purchase by the Santa Fe Lead-Zinc Mines, Ltd. This company is a limited partnership. The major partners are W. W. Mayer and Richard McGhee, both of Santa Fe, New Mexico. Additional ground in the area held by the above company makes the holdings total about 204 acres.

DESCRIPTION OF THE DEPOSIT 3/

The veins are situated within steeply-dipping shear zones that traverse monzonitic intrusive rock. Shear zones vary in width, where observed, from about one foot to six or seven feet. The width in stoped sections appears to be four to seven feet. Stoll reports the maximum thickness of the shear zone as ten feet. The wall rocks on either side of the shear zones appear strong but are in places sliced by a few steep to flat fractures.

Within the shear zones, the monzonite is generally in small ellipsoidal masses enclosed by shears. Stronger shears and the main fault wall or walls are marked by clay gouge, some samples of which swell when wet. Clay gouges range from seams to a maximum observed thickness of 1½ feet.

The veins within the shear zones contain practically all the valuable metals where they can now be observed. Veins may be on either wall or within the shear zones. Commonly, a single vein is present, but locally there are two. Total width of vein material

3/ This section was written by R. M. Herness.

ranges from a pinch to about two feet or a little more. Short swells of greater width are reported but none could be observed as stopes are taken from back of drift. Stoll, who had opportunity to observe stope backs during operations, reports the maximum thickness of veins to be three feet. Crosscuts vary in thickness and range from 25 to 300 feet in drift length.

The composition of the veins varies between two types: well banded to crudely banded coarse sulfides of relatively high grade, and dense gray to buff quartz with sulfides filling irregular small vugs. The ore minerals are yellow to brown sphalerite, galena, and a little chalcopyrite. Gangue minerals include quartz, carbonate, variable and apparently small amounts of pyrite, and altered monzonite (chlorite, sericite, clay minerals, and residual minerals of the monzonite).

ORE RESERVES

Measured Reserves

The only measured ore on the Tom Payne property is a stockpile at the north end of the mine dump. This stockpile was pointed out by Richard McGhee. Most of the material was reportedly derived from drifting on the third level. Reports credit this stockpile with from 4,000 to 6,000 tons of ore containing 5 percent lead and 12 percent zinc. Careful measurements of the stockpile show that it contains 1,150 tons of ore. Sampling of the stockpile, necessarily

confined to near surface material, shows that the grade of the material is as indicated in the following tabulation. Only a very small amount of the zinc was in oxidized form.

Stockpile (Measured Reserves)					
	Oz. per Ton		Percent		
Tons	Gold	Silver	Copper	Lead	Zinc
1,150	0.03	1.0	0.10	3.25	5.90

This quantity of ore checks quite closely with the amount of material removed from the third level as shown in W. C. Stoll's map (Figure 2). The grade of the material checks well with the other reserves when dilution in drifting is considered. 1/

Indicated Reserves

No ore in place is assigned to the "measured class" because of its inaccessibility. All calculated blocks are assigned to the "indicated class."

Additional ore may exist on the third level, but critical evaluation is impossible because of the present inaccessibility of that level and lack of reliable data on 210 feet of drifts reportedly driven beyond the faces shown on Stoll's map. The stockpile, according to Mr. Mathes, represents drift rock from the third level. Messrs. Soule' and Dare 2/ estimate that this stockpile contains 1,150 tons. Their sampling, necessarily restricted to near surface material, indicates a grade as shown under the section on Measured Reserves.

1/ This section was written by Soule' and Herson.
2/ Wilbert L. Dare, Bureau of Mines engineer, Silver City, N. Mex.

Mr. Mathes reports the third level drifts were driven over the full width of the shear zones. Hence, the stockpile would appear to represent about 300, or at most 350 feet of drift, a length about equal to that of drifts shown on Stoll's map (Fig. 2). Therefore, there is some question as to what parts of the third level are represented by the stockpile. It may be mainly from the drifts as shown by Stoll in which some vein material is known. It appears to be 50 percent too large to represent the 210 feet of reported drifts beyond the faces of Stoll's map. Considering the high dilution in drift rock, and experience in higher levels, the grade of the stockpile may well indicate sections of stoping ground on the third level.

The grade of indicated ore represents the unweighted average of all available sample assays. No samples of partly stoped sections are available because of inaccessibility of most stope backs and the fact that stopes were opened from the back of drifts. Therefore, the grade calculated from samples does not necessarily represent the true grade of indicated ore.

Because of the cited conditions, it is not feasible to list tonnages and grades for the individual blocks of indicated ore shown on the long section on figure 2. The tonnage calculated for the mine assumes a width equal to average vein width represented by all available samples. If data were adequate, considerable of the indicated

reserves undoubtedly would be classed as inferred ore, and some as measured ore.

As the mining method was largely stripping in cut-and-fill stopes, probably with some sorting, it is not possible to accurately estimate dilution. One cannot assume minimum mining width in calculating dilution since the full width of the shear zones is necessarily taken in mining.

The samples from which grade was calculated include some dilution. An arbitrary additional 50 percent tonnage dilution of ore with barren chlorite monzonite is assumed. The indicated reserves when so diluted become:

Tons	Gold	Silver	Copper	Lead	Zinc
10,152	.008	1.62	0.14	4.68	8.60

The grade after dilution compares well in combined metal with the grade of past production if the latter is corrected for losses during treatment. The lead-zinc ratio is higher in the reserves than in past production. Production records show this difference is largely localized in about 3,000 tons of ore produced in 1937. That ore was either low in lead, or lead was not recovered for some reason, or lead was not fully credited to the Tom Payne mine. A small body of nearly lead-free zinc ore has been reported.

It appears probable that available samples shown in Table 2 indicate a lead-zinc ratio well above the actual. The recovered grade of 1905-1949 production that follows, appears to indicate

a lead-zinc ratio somewhat below the actual:

Tons	Gold	Silver	Copper	Lead	Zinc
6,771	.006	1.1	0.19	2.4	8.3

Inferred Ore 5/

The total positively known development, excluding raises, includes 309 feet of shaft, 239 feet of ventilation shafts, 2,002 feet of drifts, and 70 feet of crosscuts, a total of 2,622 feet. The total of diluted proposed ore, diluted drift rock in stockpile, and arbitrarily diluted indicated reserves totals 18,073 tons. The mine thus appears to make about seven tons of diluted ore per foot of development work, excluding development raises. Over an average drift length of 650 feet on three levels, it makes about 6,780 tons of diluted ore, including indicated ore, per 100 feet of depth. These figures can be regarded as the maximum expectable in any future development program.

The inaccessibility of the third level and lack of records concerning the reported extensions of this level beyond the faces of Stoll's map, prevent adequate comparison of its ore-making possibilities with the experience on the first and second levels. The general impression received from study of the long section (Fig. 2) is that the third level is poorer in ore than levels above. A possibility exists that the zone of ore shoots rakes flatly down to the south mainly beyond third level development. It is equally possible that the zone of oreshoots is failing in depth. Calculation of

5/ This section was written by R. M. Hernon.

inferred ore reserves is not justified. The maximum expectable tons per foot of development, or per 100-foot lift, and the interpretations of oreshoot extension or failure given, are about all the facts warrant in view of inaccessibility of mine workings and the poor past history of the property.

Table 2.—Sample Analyses

Assays of samples marked TP were taken from the Tom Payne mine by J. F. Frost and Guy Ingersoll (from R.F.C. files). Samples were taken at various times in 1943 and 1944 as mining progressed. Samples marked DMA were taken by the Field Team in 1951. Sample locations are shown on Figure 2.

Assay No.	Lead	Zinc	Gold	Silver	Copper	Width of mineralized area
TP-1	19.5	15.8	-	-	-.25	1.3 feet
TP-2	none	.2	-	-	trace	3.0
TP-3	12.0	15.4	.02	3.9	-	1.6
TP-4	8.6	23.3	.01	2.2	-	3.2
TP-5	17.7	13.0	.10	5.2	-	1.1
TP-6	12.1	18.9	.01	3.3	-	1.1
TP-10	4.6	24.8	.02	2.2	.20	.9
TP-11	11.6	29.3	.02	3.0	.30	1.0
TP-21	11.1	18.9	.01	3.0	.40	1.1
TP-22	9.5	10.3	.01	2.4	.48	1.1
TP-23	3.3	8.3	trace	1.1	.15	2.0
TP-24	5.7	11.0	.01	2.0	.20	1.6
TP-25	16.6	26.9	.01	2.0	.28	1.5
TP-26	5.3	13.8	.01	2.1	.10	2.0
TP-27	2.0	7.3	.01	1.2	.15	5.3
TP-28	3.1	8.8	.01	1.3	.25	3.3
TP-29	9.1	7.8	.02	4.3	.28	1.5
TP-40	2.6	13.8	.05	2.0	.25	1.1
TP-41	5.0	11.0	.01	2.2	.40	1.0
TP-42	3.7	8.1	.01	1.4	.20	4.0
TP-100	5.7	20.2	.01	4.1	-	1.2
TP-101	5.0	11.5	.01	1.6	-	1.4
TP-102	4.2	7.5	trace	1.1	-	1.9
TP-103	3.6	5.2	trace	.8	-	2.6
TP-104	15.9	20.3	.03	6.6	-	1.0
TP-105	7.5	7.5	.01	3.8	-	3.0
TP-106	3.4	3.4	.01	2.2	-	1.2
TP-107	5.9	7.3	.01	2.0	-	1.2
TP-108	8.6	16.0	.01	3.1	-	2.5

Table 2.--Sample Analyses, cont'd

Assay No.	Lead	Zinc	Gold	Silver	Copper	Width of mineralized area
TP-149	7.3	13.5	.01	2.0	-	2.4 feet
TP-150	3.0	6.1	trace	1.0	-	1.4
TP-151	11.6	30.3	.01	5.0	-	1.6
TP-152	3.4	7.2	trace	1.4	-	1.2
TP-156	1.3	2.0	trace	.3	-	3.0
TP-157	15.6	15.1	.01	6.4	-	1.0
TP-158	1.0	.5	trace	.5	-	1.1
TP-210	6.6	18.8	.01	2.9	-	.9
TP-211	9.5	16.6	.01	2.7	-	1.5
BMA-1	2.65	7.95	.04	1.15	0.12	2.3
BMA-2	3.25	5.90	.03	1.00	0.10	Stockpile

PRESENT STATUS

The Tom Payne mine is developed by a main shaft reported to be 350 feet deep. This depth could not be verified because of water just below the third level and reliable maps show this shaft to be about 307 feet deep. These maps show a total of about 1,957 feet of drifting and an additional 65 feet of subsequent work was measured on the second level north. Most of the reported additional drifting in the second and third levels could not be verified because of inaccessibility (see Fig. 2).

The main shaft is fully equipped with headframe and gasoline hoist. Only minor repairs would be necessary to hoist through this shaft. A small inadequate gasoline compressor is located near the shaft collar. Complete rehabilitation of all drifts is necessary and the reclamation of the caved portions will be about as costly to reclaim as new drifting. There is insufficient stoping ground

available in areas of easy reclamation to furnish ore to a 50-ton mill.

Additional mine openings are necessary to comply with New Mexico safety regulations. A second escape passage and airway is mandatory, especially because of the caving nature of the ground in the lower parts of the mine. This is equivalent to a new shaft from the surface to the levels being mined. Connections from this escapeway to the workings are necessary.

PRODUCTION PLAN

The operators of the Tom Payne mine plan to mine and mill 50 tons of zinc-lead ore per day if a $100,000 loan is granted to rehabilitate the mine and complete a small mill. Deterrents or disadvantages to this plan are listed as follows:

1. The oreshoots within the vein are very narrow and generally of short length. Considerable rehabilitation of present mine workings, as well as additional development work, is necessary to provide enough stopes to produce 50 tons of ore per day. In addition, as previously mentioned, considerable extra development must be done to comply with State safety requirements;

2. Because the oreshoots are narrow and relatively small laterally, very high mining costs are to be expected as well as considerable dilution of the ore. Also, the very bad nature of the ground in the lower levels where considerable moisture was noted requires considerable extra care and material to render a safe working place. This will increase the costs over the high costs attendant to mining small and narrow oreshoots;

3. The ore reserves shown by the considerable amount of development work is far below usually accepted ratios. This means that the already high mining costs are further increased by adding a disproportionate amount of development costs;

4. The advantages of completing the small nearby mill are overcome by the large amortization costs imposed on the small ore reserves.

5. The scheduled organization as proposed in the application is unnecessarily top-heavy. One qualified technical man would be capable of handling all of the operations of mining, milling, and engineering. The additional personnel outlined in the application will tend to further increase the costs.

Based on the above facts and observations, the following economic summary is tabulated. Also, no allowance is made for the usual development work necessary to keep finding new ore.

Table 3.--Economic Summary

Per ton, based on present prices of ore, materials and services and upon the ore reserves as calculated.

	Mill at mine Loan granted	Ship to mill at Deming Loan denied
Mine reclamation	$0.91	$0.91
New development for Safety requirements	3.40	3.40
Mining costs	10.48	10.48
Ore to near mill or RR	0.25	0.60
RR freight on ore to mill	0.00	5.25
Milling charge	3.50	4.00
Milling loss (metallurgical)	6.87	6.87
Smelting charges, incl. freight, marketing & refining charges	10.00	10.00
Smelting loss (metallurgical)	3.89	3.89
Repayment of capital	9.29	0.00
Supervision	1.30	1.30
Royalty	4.58	4.58
Insurance and taxes	.40	.35
Total cost per ton of ore	$54.87	$51.63
Present value per ton of ore	45.81	45.81
Loss per ton of ore	$9.06	$5.82
Total loss on operation	$102,396.12	$75,777.64

It is evident from the above table that an economic operation of the Tom Payne mine is not feasible and that a lesser loss on the operation is indicated if the loan is denied and the attendant amortization costs are removed. Because the reserves in the Tom Payne mine are very small and the contribution to the National economy and effort is so minute as to be insignificant, and because such an operation will be conducted at a loss, the proposed loan of $100,000 should be denied.

CONCLUSIONS

The Tom Payne mine does not merit the proposed loan and gives little promise of sufficient ore to backlog a mill. This is emphasized by the small past production, the present small ore reserves and the indicated unprofitable operation under present economic conditions.

RECOMMENDATIONS

The findings outlined in this report show that an unprofitable operation will result at the Tom Payne mine whether or not a loan is granted. It further shows that lesser losses would be sustained if the loan were denied. The contribution of metals to the Nation's emergency need would be negligible and because of this and the previously stated observations, the Defense Minerals Administration's examiners recommend that the loan be denied.

April 1951

CONFIDENTIAL LETTER to accompany DMA Docket #247, Tom Payne Zinc-Lead mine, Cerrillos Mining District, Santa Fe County, New Mexico.

COMPETENCE OF APPLICANTS

Richard McGhee, the managing partner of the Santa Fe Lead-Zinc Mines, Limited, claims to have had considerable experience in mining in Nevada and California as well as New Mexico. Nothing is known of his work outside of New Mexico. After spending the best part of a day with McGhee, seeing some of the work he supervised, and of hearing about him, the following opinions are deduced.

1. McGhee shows construction ability, as some of the work done under his supervision is well done.

2. McGhee is a practical miner and seems to lack the engineering and business sense or knowledge about what constitutes a successful mining operation.

3. McGhee is pleasant although talkative. There is no reason to doubt his honesty and sincerity and his belief of a successful operation on the Tom Payne mine is due more to hope than to an analysis of the fundamental data.

Nothing is known about the ability of W. W. Meyer, a partner in the firm and office manager for the mine. He is now engaged in handling oil and gas leases.

Paul Rhinehart, the suggested mine superintendent, is well known as a practical miner in the state but is not technically trained.

Two other men are proposed for the operating staff, of which one Mr. Bemis was mill superintendent for the American Metals Company's

operation at Tererro, New Mexico. He seems fully qualified.

The above operating staff is far too large for a 30-ton per day operation of the Tom Payne mine and, if salaries are paid to the staff, increased supervisory costs will result. One competent, qualified, technically-trained man would be able to handle an operation of this type.

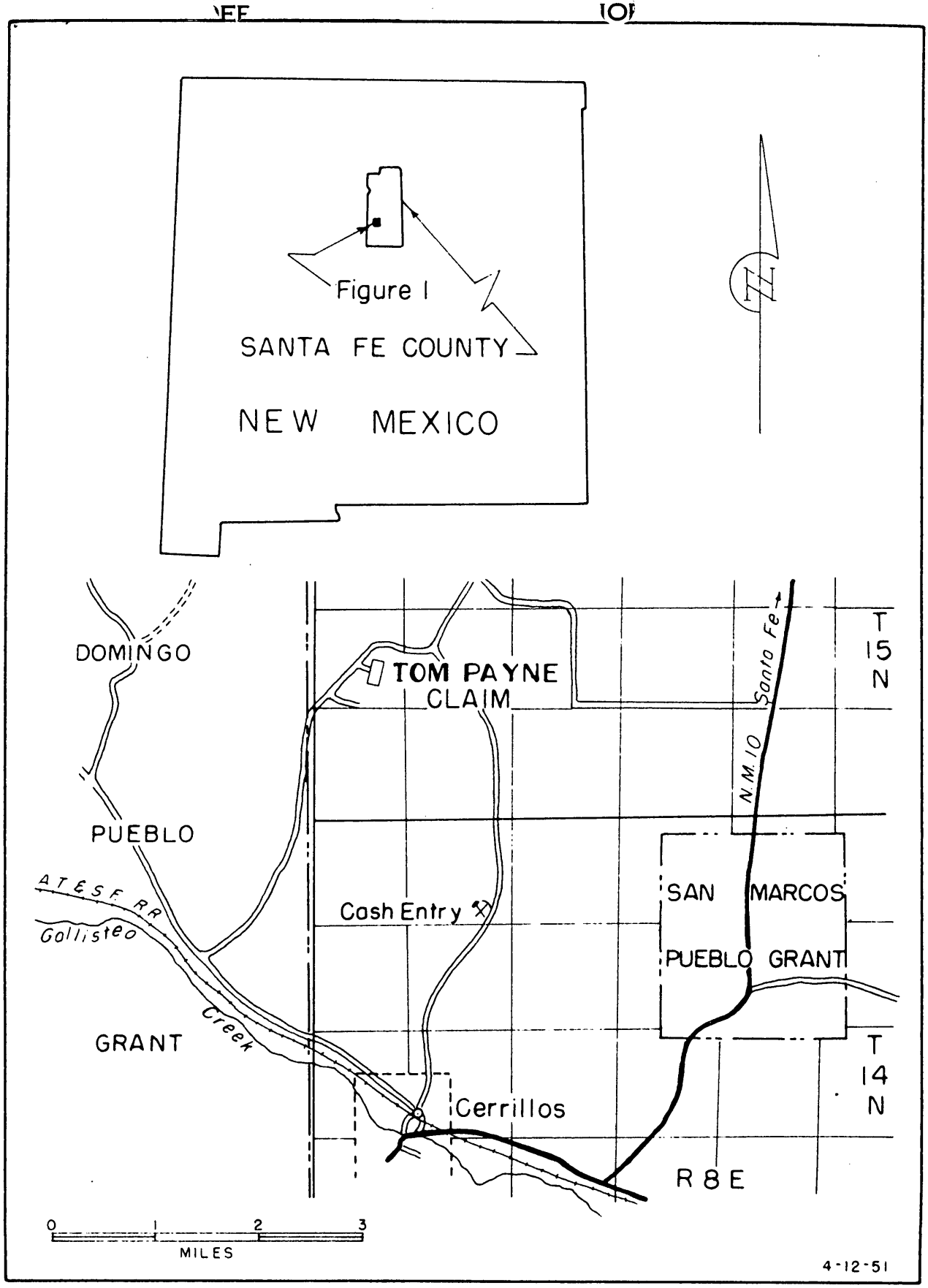

Figure 1. – Location map, Tom Payne lead-zinc deposits.

BUREAU OF MINES
WASHINGTON, D. C.

MAY 3 10 02 AM '51

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

OFFICE OF
REGIONAL DIRECTOR

REGION IV

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

APR 10 3 27 PM '51
BUREAU OF MINES
WASHINGTON, D.C.

April 5, 1951

Memorandum

To: Otto Herres, Chief, Lead-Zinc Branch, DMA

From: DMA Field Team, Region IV

Subject: DMA 247 Santa Fe Lead Zinc (Tom Payne mine), New Mexico

Referring to your memorandum dated March 30 regarding additional information concerning DMA 247, Mr. Allsman advises that the project is being investigated--the operators have been contacted and the necessary information secured.

J. H. East, Jr.

J. H. East, Jr.

A. H. Koschmann

A. H. Koschmann

Mr. Stevens

DEPARTMENT OF [illegible]
BOARD [illegible]
[illegible]

APR 1 1 1951

LAWSON B. STRAUSS
Executive Secretary

reply

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

March 30, 1951

DMA-247
Santa Fe Lead Zinc
(Tom Payne Mine)
New Mexico

Memorandum

To: DMA Field Team Region IV

From: Otto Herres, Chief
Lead Zinc-Branch

Referring to your memorandum of March 22, we replied to the teletype sent by W. D. McMillan in relation to additional information from the files in Washington concerning DMA-247 and requested that you check the Tucson office for this information.

In the event that the information referred to is not found at the Tucson office, please let me know and we will make a further effort to run it down here.

Otto Herres

OTTO HERRES

OTOHERRES:ks

CC: Mr. Strobel
Mr. Moon
Mr. Mote
Mr. McKnight
Mr. Herres
Xtra copy to Executive Officer Field Team Region IV
J. H. East, Jr., 224 New Customhouse Building
Denver 2, Colorado
Files

DON F. STROBEL

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

OFFICE OF
REGIONAL DIRECTOR

REGION IV

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

APR 10 3 27 PM '51
BUREAU OF MINES
WASHINGTON, D.C.

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Referring to your memorandum dated March 30 regarding additional information concerning DMA 247, Mr. Allsman advises that the project is being investigated--the operators have been contacted and the necessary information secured.

J. H. East, Jr.

A. H. Koschmann

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 27 1951
LANDON F. STROBEL
Executive Secretary

Santa Fe, New Mexico,
March 31, 1951.

APR -2

United States Department of the Interior,
Bureau of Mines,
New Mexico Field Office,
Box 1060, Silver City, New Mexico.

Attention:
John H. Soule,
Acting Supervising Engineer.

Dear Mr. Soule:

Reference is made to your letter of March 29, 1951, referring to Docket 247 and loan application for $100,000.00 on the Tom Payne Mine in the Cerrillos District, Santa Fe County, New Mexico.

Enclosed is copy of our six-page application of last December 6 for this loan. I believe that it will give you the information requested.

We have on hand the following:

5 drill machines,
3 drifters
2 stopers
Hose, drill-steel and bits.

Please advise if any additional information is desired and I will be glad to furnish same promptly.

My wife is now in the hospital and I spend most of my time there. So if I can't be contacted at my home, 121 West Berger Street, phone 3-6541, I suggest that you contact Mr. W. W. Moyer, at his home on Williams Street, phone 3-5325, or at our office, 14 Gans Building (on the Plaza), phone 3-3271, and he will know where to find me.

I will be very glad to meet your D. M. A. field team here.

I certainly thank you for your efforts in helping to get this application through.

With kindest regards, I remain,

Sincerely yours,

Richard McGhee

Richard McGhee
P. O. Box 74.

Encl -1-
WWM

SANTA FE LEAD-ZINC MINES, LIMITED,
(a limited mining partnership)
P. O. Box 74,
Santa Fe, New Mexico.

December 6, 1950.

Mr. J. H. East, Jr., Regional Director,
United States Department of the Interior, Bureau of Mines,
224 New Customhouse,
Denver 2, Colorado.

Sir:

Reference is made to your letter of November fifteenth and form-letter enclosed, as requested. In compliance therewith the following is submitted:

1. Tom Payne Mine is not now operating, but to be operated by Santa Fe Lead-Zinc Mines, Limited, (a limited mining partnership), P. O. Box 74, Santa Fe, New Mexico. Previously operated under lease from A. B. Stewart by Sierra Metals Company.

2. Past production: 16,000 No! tons in 1915-16-17 from 100' to 200' levels by H. O. Brooks, owner. In 1944, 433.5 tons by A. B. Stewart, Lessee.
Present production: None.
History of property: Located in the North Cerrillos Mining District, containing large deposits of zinc-lead ores, with small values in gold, silver and copper. It has been worked intermittently since 1680, when discovered by the Spaniards. Between 1904 and 1930 the district is reported to have produced 1,155,527 pounds of zinc; 842,340 pounds of lead and 160,620 pounds of copper. In 1946 the Tom Payne Mine was closed down for lack of capital, under gross mismanagement by Sierra Metals Company. After shipping 433.5 tons of ore to A. S. & R. Co. smelter in El Paso, Texas, shipments were stopped in 1944. It was disclosed that penalties were too high for not separating the zinc from the lead and other metals. A selective oil-flotation process was necessary, at the time, to obtain separate concentrates and receive maximum values. Denver Equipment Company prepared a "flow-sheet", to be used with their flotation machine, for these ores. A mill was partially completed, under roof, on concrete, for milling 50 tons of ore daily. Over 6,000 tons of ore were stockpiled for this mill; also some 30,000 tons of ore exposed on the 100', 200' and 300' levels in the Tom Payne Mine. Then the Sierra Metals Company forfeited its lease. Lease and option to buy are now held by Richard McGhee, of Santa Fe, N. M., under very favorable terms; to-wit: 10% from production to apply on purchase price, with clause for renewal each five years on original terms.

3. Proposed work for which loan is requested: To complete mill, now under roof, on concrete; purchase and install necessary machinery to mill ore and separate into concentrates by selective oil-flotation process; lumber; pipe; truck; wages and insurance on property and workmen. Denver Equipment Company's estimate, dated November 20, 1950, is shown below in item 3.c.

   a. No new work contemplated at this time.

3. b. Major equipment and other facilities available:

1 Keuken Crusher, 10" x 12"
1 Ball Mill, Harding, 5', conical
1 Dorr Classifier, 14" x 12', rake type
1 Diesel, Atlas Imperial, 100 h.p.; for all power and lights
1 Mill, 40' x 65', concrete; under roof; designed for one man to handle 50 tons of ore daily.
1 Bin for fine ore; 225 tons capacity
1 Bin for concentrates; 160 tons (divided)
1 Water-well, 200' deep; 140' water in well; equipped with casing, walking-beam and gasoline engine; to furnish 60 gallons per minute.
1 Hoist-engine and gallows-frame No!
1 Shaft in Tom Payne Mine 350' deep, timbered and in first-class condition; water-lines and airlines installed; ready for operations.

Drifting in Tom Payne Mine, as follows:

S end of 100' level	-	450'	- connected with airshaft
S end of 200' level	-	400'	No! ±320 - This is ultimate
N end of 200' level	-	600'	— 560 +? cond
S end of 300' level	-	330'	160+ ? cond
N end of 300' level	-	200'	160+ ? cond.
Total drifting in ore ?		-2,000 feet	not true !!

c. Major new equipment and other facilities required:

1 Generator, 100 k.w., complete with switchboard	$ 1,250.00
1 Conveyor belt, 18" x 150'	600.00
8 18" conveyor belt troughing idlers	210.00
1 12" wide x 10' long, Denver Adjustable Stroke Belt ore feeder, with heavy endless belt and thick rubber covering, steel pulleys, belt rollers closely spaced under feeder hopper; with hand-wheel operated variable feed adjustment; all mounted on heavy structural steel frame. Arranged for motor drive, including 1/2 HP 3 phase, 60 cycle, 440-volt motor, V-rope drive, including V-belts and grooved sheaves and special mounting for motor, and 1-only manual op. m. starting switch	611.00
1 1½ HP 3 phase, 60 cycle, 440-volt, 1200 RPM motor for 12" x 14' Dorr Rake Classifier, complete with manually operated switch, less drives,	108.30
1 2 HP, 1800 RPM, 3 phase, 60 cycle, 440-volt motor, complete with manually operated switch	108.30
2 No. 15 (24" x 24") 6-cell Denver "Sub-A" Flotation Machine with rubber wearing parts, arranged for and including dual motor drive, with 3 HP 60-cycle, 440-volt, motor and drives, including manually operated switches and hand-wheel oper. Weir Gates,	5,570.00
1 1½ HP, 1800 RPM, 3 phase, 60-cycle, 440-volt motor, complete with manually operated siwtch, for No. 6 Denver-Wilfley Concentrating Table,	94.50
Forward,	8,552.10

Item 3. c. - (continued) - Total forward, $ 8,552.10

1 - 4' x 2 disc Denver Disc Filter, with 1 compartment each for lead and for zinc, arranged for and including 3/4 HP, 98-49 RPM, 60-cycle, 3 phase, 440-volt variable speed motor, with sprocket and roller chain drive and manually operated switch 2,310.00

Vacuum Accessory equipment for above Filter:
- 5½" x 4" Duplex Cylinder Air Cooled Vaccum Pump;
- 1" - 3531 Filtrate Pump
- 12" x 60" Filtrate Receiver
- 12" x 30" Moisture Trap
- No. 24 Blower
- Necessary motors for Vacuum Pump (5 HP), and Filtrate Pump; all manually operated switches 1,217.00

3 - No. 12 Denver Duplex Wet Reagent Feeders, arranged for and including 1/20 HP, 1800 RPM, 1 phase, 60 cycle, 110-volt, resistance split phase, sleeve bearing motors; with V-to-V belt drives and manually operated switches 645.00

2 - 6" Denver Dry Reagent Feeders (Cone Type) with cylindrical steel Hopper, revolving turn-table, scraper for removing reagent, stirrer, screen, all mounted on steel base plate, arranged for and including 1/4 HP, 1 phase, 60 cycle, 110-V, sleeve bearing motor with manually operated switches and V-belt drives 312.60

Freight on above from Denver to mine, approx. 10 tons, 713.30

1 - Pickup truck for mine	2,000.00
Pipe for water line, 2", 2,000', plus freight	1,000.00
Lumber and timbers, for mill and mine	2,000.00
Rails, for mine and surface	1,250.00
Electrical installation in mine & communic. system	750.00
10 ore buckets; 2 mine cars; 500' cable; various tools	1,500.00
1 International K-7, dump truck, 3½ tons	4,000.00
1 log cabin for General Manager, furnished	2,500.00
Repairs to mine road	1,250.00
Chemicals and Supplies for Mill	1,000.00
Construction of bin for coarse ore, for crusher & ramp	2,500.00
Powder, fuses and caps	1,000.00
Insurance: Fire, Compensation and Public Liability	1,000.00
Plus Freight?	$ 35,500.00
Wages for 10 men for installation; 60 days @ $10.00	6,000.00
Wages for 30 men for mine and mill operation, @ $10.00 90 days (including administrative expense)	27,000.00
	$ 68,500.00
Cash in bank as reserve for contingencies	31,500.00
	$100.000.00

3. d. Present average number of employees: None.

e. Estimated additional employees required for proposed work:
As stated above.
Availability of labor for this work:
All men are now available from small towns of Cerrillos

and Cienega, both five miles from mine.

3. f. Name and location of mill where ore will be treated:
No name. On property.
Distance to mill: 3,000' from Tom Payne Mine
Method of transportation: Truck.

g. When proposed work is completed, rate of production that reasonably can be expected: 50 tons daily. This estimate made by Denver Equipment Company. See their Flowsheet of 7 pages, dated November 3, 1944, Ore Test 1591-U, which should be in R. F. C. files in Washington.

h. Estimated time required to complete work for which loan is requested:
To complete mill for operation will require 60 days from date equipment is received at property.
Immediately after completion of the mill it is planned to begin milling the stockpile of 6,000 tons now on the ground. To mill this ore will require at least 120 days. We expect to prepare the mine for operation 30 days before the mill is completed. We expect to begin mining with the start of the operation of the mill. We plan to mine at the rate of 50 tons a day. We estimate that it will require two weeks to get the mill operating at the rate of 50 tons daily. We expect to start shipping concentrates to the smelter within three weeks after the mill starts operating.

i. Accessibility of mine: Four miles from paved highway.
Present condition of roads: Fair to good.

j. Estimate of metal prices required to operate this mine on grade of ore expected: Five cents per pound, each, for lead and zinc; minimum.
Reasoning?

4. Estimate of ore reserves:
This is absolutely false

a. Measured ore: 10,000 tons in mine; assay: 8% lead; 17% zinc.
b. Indicated ore: 20,000 tons in mine; " ditto
c. Inferred ore: 10,000 tons in mine; " ditto
Stockpile measures: 6,000 tons. Assays: 5% lead; 12% zinc.
No maps and assays available, except U. S. Dept. of Interior, Geological Survey Preliminary Maps 3-205, prepared for Strategic Minerals Investigations in report made by their engineers in 1945; also 37 sample assays made by Jack Frost and Guy Ingersoll, Consulting Engineers, R. F. C., showing average values in 4.a. above; all on file in Washington.
In 1944 report was made by R. J. Forrester, Mining and Metallurgical Engineer on the Tom Payne Mine. He showed therein, at that time, a total of 846 feet of drifts on the 100', 200' and 300' levels. He figured 100' and 110' as the vertical extent of ore; with 2' as the average width of ore and 15 cubic feet of ore in place to the ton; thus deriving a total of 12,284 tons of proven ore; indicated ore, 5,000 tons; probable ore, 5,000 tons; possible ore, 20,000 tons; for a total of 42,284 tons.
Terms need clarification !!!
He states: "Proven ore is meant as ore blocked out on all sides in blocks small enough to insure continuity of values and widths. Indicated ore is ore less well blocked. Probable ore is ore drifted through and in headings. Possible ore is the imagined extent of a partially opened ore body on the ore basis of past mining experience."
None!

why not? be accurate?

Quoting further from R. J. Forrester:

"All figures are considered ultra conservative, and are taken from Mr. Stewart's records, believed to be correct. The ore is assumed safely to carry 6% lead and 9% zinc over 2' widths above the 300' level, and to carry 9% lead and 18% zinc below the 300' level in the shaft bottom over 3' widths, which latter is all included in the 'indicated ore'."

Attached hereto is one photostatic copy of Maps 3-205 and report now on file in Washington, mentioned in 4 above; also assays attached to Fig. 2.

? In connection with milling 50 tons daily, there are now enough stopes ready in the three levels to mill that amount of ore. The 10,000 tons of measured ore, in 4.a., plus the 6,000 tons of measured ore in the stockpile, will keep the mill running at least one year. The R. J. Forrester report also indicates probably 30,000 additional tons available from the Tom Payne Mine. It is to be noted that he derived a total of 12,284 tons of proven ore from only 846 feet of drifts at that time. Since then these drifts have been extended for a total of 2,000 feet on the three levels. This would indicate an increase of proven ore from 12,284 tons to over 29,000 tons. We fully agree with his statement that all figures are considered ultra conservative. Also that width of veins and assay values increase with depth. Fooey!!

No! Whole dump only little more.

5. No other reports by engineers are now available, concerning this property. However, a report dated September 30, 1946, was made by Thomas M. Bains, Jr., E. M., Columbia, 1912, former professor of Mining, Colorado School of Mines, entitled : "Mining Report on the Tom Payne and Black-Hornet Zinc-Lead Properties, Cerrillos District, New Mexico." (17 pages). On page 2 he states that more than 30 nearly parallel veins cross the property, as found to exist by W. C. Stoll, the U. S. G. S. Engineer in charge of their survey. On page 3 he states that the ground breaks easily and the principal mining cost will be labor, with no union troubles likely in this region. On page 5, paragraph 1, Bains states that due to excessive costs of smelting, shipments were stopped and about 6,000 tons of ore were stockpiled at the Tom Payne shaft dump for milling in a 50-ton selective flotation mill being erected on the Black Hornet Mine; that this mill is partially completed at this time and the Sierra Metals Co. has forfeited its lease and options and is now out of the picture.

Smelting costs still apply.

6. EXPERIENCE OF MINE MANAGEMENT:

Managing Partner: Richard McGhee, formerly Master Mechanic with Masonic Mining Co., Masonic, California; Superintendent of both Syndicate Mine, Bodie, California and Como Mines, Dayton, Nevada. Over 30 years in various other mines in both states.

Superintendent: Paul Rinehart. Mine foreman and superintendent for 25 years in various mines in Colorado, Arizona, New Mexico and Mexico. Formerly Superintendent for New Mexico Manganese Co., Silver City, N. M. and Mercury Mines, Inc., in Ark.

Assistant Superintendent and Electrician: Wilbur Mullins. Mine foreman and superintendent for 20 years in various mines in Cripple Creek, Colorado.

Top heavy!

EXPERIENCE OF MINE MANAGEMENT - continued:

Consulting Metallurgical Engineer: H. D. Bemis. Retired after 12 years with American Metals Co. as their General Managerin charge of all milling operations. He is conceded to be an outstanding Metallurgical Engineer.

Straw Boss: To be selected by H. D. Bemis.

Office Manager and Treasurer: W. W. Moyer. Banking for 16 years; also many years as accountant and auditor.

Auditors: Linder, Burke and Stephenson, C.P.A.'s.

Legal Counsel: H. O. Waggoner, Esq., Albuquerque, N.M.

7. Other Evaluating Data: 1150 tons

It is to be noted that the 6,000 tons of ore already mined, in the stockpile and ready to mill, is ample security for this loan. Assay values on this ore are 5% lead and 12% zinc, thus indicating a net profit of more than $250,000.00, from which this loan will be repaid. $37,490 - more accurate.

The proven and other ore in Tom Payne Mine, assaying much higher values, should keep the mill busy continuously at this property for the next five years, by conservative estimates. These properties comprise 206 acres, in two leases.

The operation is proposed to be carried on as a limited mining partnership.

All titles and leases have been examined and approved by competent legal counsel.

8. All previous attempts to secure private financing have failed; because of some bad history under previous management. (probably, also, because no mine)

Please acknowledge receipt of this application and enclosures. If any additional information is desired by you in order to expedite this loan, please advise.

Respectfully,

SANTA FE LEAD -ZINC MINES, LIMITED,

By: _____
Richard McGhee, Managing Partner.

Enclosures -5-

WWM

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

Herres

March 30, 1951

DMA-247
Santa Fe Lead Zinc
(Gen. Payne Mine)
New Mexico

Memorandum

To: Field Team Region IV

From: Otto Herres, Chief
Lead-Zinc-Branch

Referring to your memorandum of March 27, we replied to the teletype sent by W. D. McMillan in relation to additional information from the files in Washington concerning DMA-247 and requested that you check the Tucson office for this information.

In the event that the information referred to is not found at the Tucson office, please let me know and we will make a further effort to run it down here.

Otto Herres

OTOHERRES:ks

CC: Mr. Strobel
Mr. Moon
Mr. Mote
Mr. McKnight
Mr. Herres
Xtra copy to Executive Officer Field Team Region IV
J. H. East, Jr., 224 New Customhouse Building
Denver 2, Colorado
Files

LANDON F. STROBEL

Mr. Herres

UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

OFFICE OF
REGIONAL DIRECTOR

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
REGION IV
RECEIVED
MAR 27 1951
LANDON F. STROBEL
Executive Secretary

March 22, 1951

Memorandum

To: Otto Herres, Chief, Lead-Zinc Branch, Defense Mineral Administration

From: DMA Field Team, Region IV

Subject: DMA Docket 247, Santa Fe Lead Zinc (Tom Payne Mine), Santa Fe County, New Mexico.

Referring to your letter, dated March 16, enclosing a copy of a letter addressed to Dr. James Boyd by Senator Clinton P. Anderson, dated March 5, 1951, regarding the Tom Payne Mine, Docket DMA 247, we received a telegram from Senator Anderson on March 8, a copy of which is attached. We replied the same day indicating that the field report could be expected in Washington in about one month. A copy of our reply is attached.

On March 16, 1951 a teletype was sent to you by W. D. McMillan for J. H. East, Jr. requesting additional information from the files in Washington be sent to this office. While we are waiting for this information from Washington, we have requested that the field examination of this application be started in the very near future.

J. H. East, Jr.

J. H. East, Jr.

A. H. Koschmann

A. H. Koschmann

Attachments

MAR 28

BUREAU OF MINES
WASHINGTON, D. C.

1951 MAR 26 PM 4 03

FILE COPY
SURNAME:

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

14-11 EXPENSES OF DEFENSE PRODUCTION
EXECUTIVE OFFICE OF THE PRESIDENT(ALLOTMENT TO INTERIOR),1951 fo.1
MARCH 21, 1951

5226

3618
Herres

J H EAST, JR DENVER, COLORADO

RE: DMA 247 PLEASE CHECK TUCSON OFFICE FOR APPLICATION, ETC.

Otto Herres
OTTO HERRES

CC: Mr. Maye
Audits
Files

DMA 247

856

FILES

DEFENSE MINERALS ADMINISTRATION

14-1110037 EXPENSES OF DEFENSE PRODUCTION
EXECUTIVE OFFICE OF THE 5226 3618
PRESIDENT(ALLOTMENT TO INTERIOR),1951 10.1
MARCH 21, 1951

J H EAST, JR DENVER, COLORADO

RE: DMA 247 PLEASE CHECK TUCSON OFFICE FOR APPLICATION, ETC.

Otto Herres

OTTO HERRES

CC: Mr. Maye
Audits
Files

Atty. Herres
3-20-51
12:55

NAME OF COMPANY. SANTA FE LEAD ZINC COMPANY. DOCKET DMA 247

J H EAST JR

END YOURS RECD OK
LM
IS THIS IN ANSWER TO MINE PLS YES
PK THANKS END CW

Ans. O Herres
3/21

Denver, Colorado

DEFENSE MINERALS ADMINISTRATION

OTTO HERRES

5226 3618

MARCH 19, 1951

Herres

J H EAST JR DENVER COLORADO

ADDITIONAL INFORMATION

REYOUR TELETYPE 3-16-51 PLEASE ADVISE NAME OR NUMBER OF APPLICATION

OTTO HERRES

cc: Files
Mr. Maye
Audits

SENT

MAR 20

Clerical Service Section

Otto Herres

3-16-51 (12:55)

WASH BU MINES 310 GO AHD PLS

DN 235 BUR MINES 3-16-51 10.55AM

OTTO HERRES LEAD-ZINC COMMODITY COMMITTEE
REFERENCE YOUR MEMORANDUM JANUARY 18 TO FIELD TEAM REGION IV.
APPLICATION PLUS ADDITIONAL MATERIAL FROM RFC FILES NOT YET RECEIVED.
PLEASE EXPEDITE SHIPMENT.

W D MCMILLAN FOR J H EAST JR

END ACK PLS LM
OK END C

Please advise name or number of application.

Denver, Colorado

FILE COPY
SURNAME:

McKnight
Herres

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

March 16, 1951

Mr. J. H. East, Jr.
Bureau of Mines
224 New Customhouse
Denver 2, Colorado

My dear Mr. East:

Enclosed is a copy of a letter from Senator Anderson of New Mexico, inquiring as to the status of our investigation on the Tom Payne Mine. Also enclosed is a copy of our reply.

I would appreciate it if you would find out approximately when your investigation can be made and let us know, so that we can answer the Senator's inquiry.

Sincerely yours,

SAMUEL OGDO

JOHN HERRES, Chief
Lead-Zinc Branch

Enclosures 2
ETMcKnight emp
G 3/16/51
Copies to: Chief, Lead-Zinc Br.
USGS - McKnight
L. B. Moon
R. H. Mote
L. F. Strobel
C. Q. Mittendorf
Files

2 copies to J. H. East
Exec. Officer Region IV

Page 247

FILE COPY
SURNAME:

McKnight
Boyd
Moon
Strobel

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

March 16, 1951

Re: Docket DMA-247

Hon. Clinton P. Anderson
United States Senate
Washington 25, D. C.

My dear Senator Anderson:

This is in reply to your letter of March 5, requesting information on the current status of an application for a Government loan, filed with the Defense Minerals Administration by Mr. Richard McGhee of the Santa Fe Lead-Zinc Mines, Ltd.

Mr. McGhee's application, as you know, was forwarded to the Regional Field Team, for a field examination and development of certain additional data required for further processing of the application. We are making an inquiry to find out approximately when we can expect to get a report from the field, and I will let you know as soon as we have a reply.

Sincerely yours,

JAMES BOYD
Administrator

ETMCKnight:emp
G 3-16-51

Copies to: Chief, Lead-Zinc Branch
USGS - McKnight
L. B. Moon
R. H. Mote
C. O. Mittendorf
L. F. Strobel
Mrs. Parker
Base Metals Branch
Files

Administrator
Deputy Administrator

2 copies to Executive Officer
Regional Field Team,
A. E. Weissenborn, Region II

copy

TELEGRAM Washington D. C. March 8, 1951

John H. East, Jr.
224 New Customhouse
Denver

Anxious about report Santa Fe Lead Zinc Mines application DMA 247.

Advise when may expect report Washington.

Clinton P. Anderson USS

Denver, Colorado, March 8, 1951

Clinton P. Anderson
United States Senate
Washington, D. C.

Reurtel. Application of Santa Fe Lead Zinc Mines DMA 247 has been forwarded Tucson office for field investigation when engineers and geologists complete present assignments. Field report may be expected in Washington in approximately one month.

J. H. East, Jr.
Regional Director, IV
Bureau of Mines

ALLEN J. ELLENDER, LA., CHAIRMAN
CLYDE R. HOEY, N. C.
OLIN D. JOHNSTON, S. C.
SPESSARD L. HOLLAND, FLA.
CLINTON P. ANDERSON, N. MEX.
JAMES O. EASTLAND, MISS.
HUBERT H. HUMPHREY, MINN.
GEORGE D. AIKEN, VT.
MILTON R. YOUNG, N. DAK.
EDWARD J. THYE, MINN.
JAMES P. KEM, MO.
BOURKE B. HICKENLOOPER, IOWA
KARL E. MUNDT, S. DAK.

C. M. MOUSER, CHIEF CLERK

United States Senate

COMMITTEE ON
AGRICULTURE AND FORESTRY

March 5, 1951

MAR 7 1951
BUREAU OF MINES

Dr. James Boyd
Director, Bureau of Mines
Department of the Interior
Washington 25, D. C.

Dear Dr. Boyd:

Reference is had to the application of the Santa Fe Lead Zinc Mines, Ltd., owned by Mr. Richard McGhee. Mr. McGhee made application sometime ago to the Defense Minerals Administration for a production loan. I understand that this was sent to the Field office to be checked. I am wondering what, if anything, has been done.

Sincerely yours,

Clinton P. Anderson

CPA-CEWvf

LANDON F. STROBEL

ALLEN J. ELLENDER, LA., CHAIRMAN
ELMER F. BRIEF, N. C.
ELLIS D. JOHNSTON, S. C.
EDWARD L. BULLARD, FLA.
SAMUEL D. McFARLAND, ARIZ.
HUBERT H. HUMPHREY, MINN.
CLINTON P. ANDERSON, N. MEX.
JAMES O. EASTLAND, MISS.
MILTON R. YOUNG, N. DAK.
JAMES P. KEM, MO.
KARL E. MUNDT, S. DAK.
C. H. DENNISON, CHIEF CLERK

United States Senate

COMMITTEE ON
AGRICULTURE AND FORESTRY

March 5, 1951

BUREAU OF MINES
WASHINGTON, D.C.
MAR 7 9 51 AM '51

Dr. James Boyd
Director, Bureau of Mines
Department of the Interior
Washington 25, D. C.

MAR 7 1951
Mr. Stevens
reply for Boyd

Dear Dr. Boyd:

Reference is had to the application of the Santa Fe Lead Zinc Mines, Ltd., owned by Mr. Richard McGhee. Mr. McGhee made application sometime ago to the Defense Minerals Administration for a production loan. I understand that this was sent to the Field office to be checked. I am wondering what, if anything, has been done.

Sincerely yours,

Clinton P. Anderson

CPA-CHW:f

UNITED STATES SENATE

March 5, 1951

C O P Y

Dr. James Boyd
Director, Bureau of Mines
Department of the Interior
Washington 25, D. C.

Dear Dr. Boyd:

Reference is had to the application of the Santa Fe Lead Zinc Mines, Ltd., owned by Mr. Richard McGhee. Mr. McGhee made application sometime ago to the Defense Minerals Administration for a production loan. I understand that this was sent to the Field office to be checked. I am wondering what, if anything, has been done.

Sincerely yours,

/s/

Clinton P. Anderson

January 18, 1951

Memorandum

To: [illegible] Officer of Alpha Team, Region IV

From: [illegible]-Line Commodity Committee, [illegible]

Subject: [illegible] 247, Santa Fe [illegible]-Line Mines, Inc.
([illegible] mine, Cerrillos district, Santa Fe Co., New Mexico)

Review of the subject docket by the Lead-Line Committee yields the following pertinent information:

1. Applicant wants $100,000 to buy equipment and parts to complete a 50 ton mill, and for mining equipment and supplies, also for a 90 day mining payroll, also for a contingent fund ($31,500).

2. Applicant states he can start shipping concentrates about 90 days after all equipment arrives.

3. Applicant states that mine produced 16,000 tons in 1916-17. But an unpublished Geological Survey report by Walter C. Stoll, 1946, reports the accumulation of 5,100 tons of ore in 1916-17, attributing these figures to the Bureau of Mines.

4. Applicant claims 4,000 tons of ore stockpiled (grade [illegible] lead, 12% zinc), and [illegible],000 tons of measured and indicated ore (grade [illegible] lead, 17% zinc) exposed on the 100', 200' and 300' levels. The Stoll report cited above, last updated in 1946, states: "Much of remaining ore is spread in distribution in several widely separated parts of the mine and would be mineable only at relatively slow rate and high cost. The prospect of full-scale mining depends fundamentally on the prior development of further ore bodies by drifting and crosscutting."

It is recommended that application plus additional material that we have obtained from the U.S.G.S. files be referred to the field for further investigation. If applicant's statements on reserves are correct, this would appear to be a worth while project, but his figures appear to conflict with Stoll's statement. However, additional development work may have been done since Stoll was there, even though no production was made. Furthermore, Stoll was not given the specific job of reporting on measured or indicated ore, so he may have not given this problem detailed attention.

[illegible] Fe Mining [illegible] Inc. [illegible] that the [illegible] has already lost a lot of money on this mine, so they would rightly be critical of any irresponsible recommendation.

[illegible] that [illegible] was superintendent of the mine under Sierra Metals. [illegible] does not state this in his application, but charges "gross misman[illegible]ment" by Sierra Metals Company.

OTTO HERRES

[illegible], Chief
Lead-Zinc Branch

Approved:
[illegible] Operating Committee

C. O. MITTENDORF

~~[illegible] Williston, Chairman~~

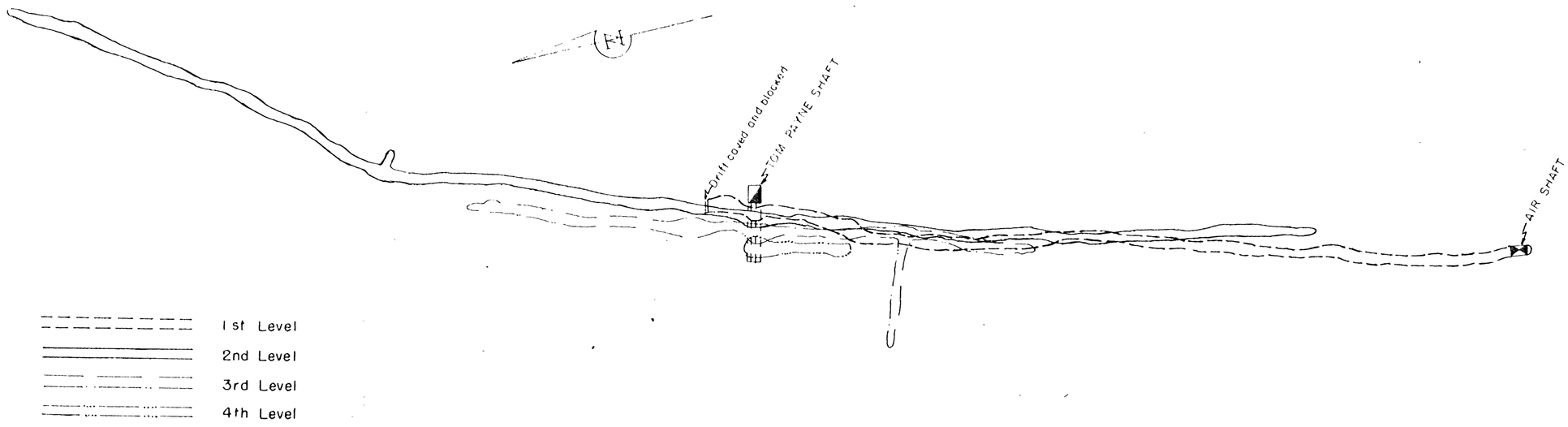
J. H. Hedges, [illegible]

[illegible] Hedges

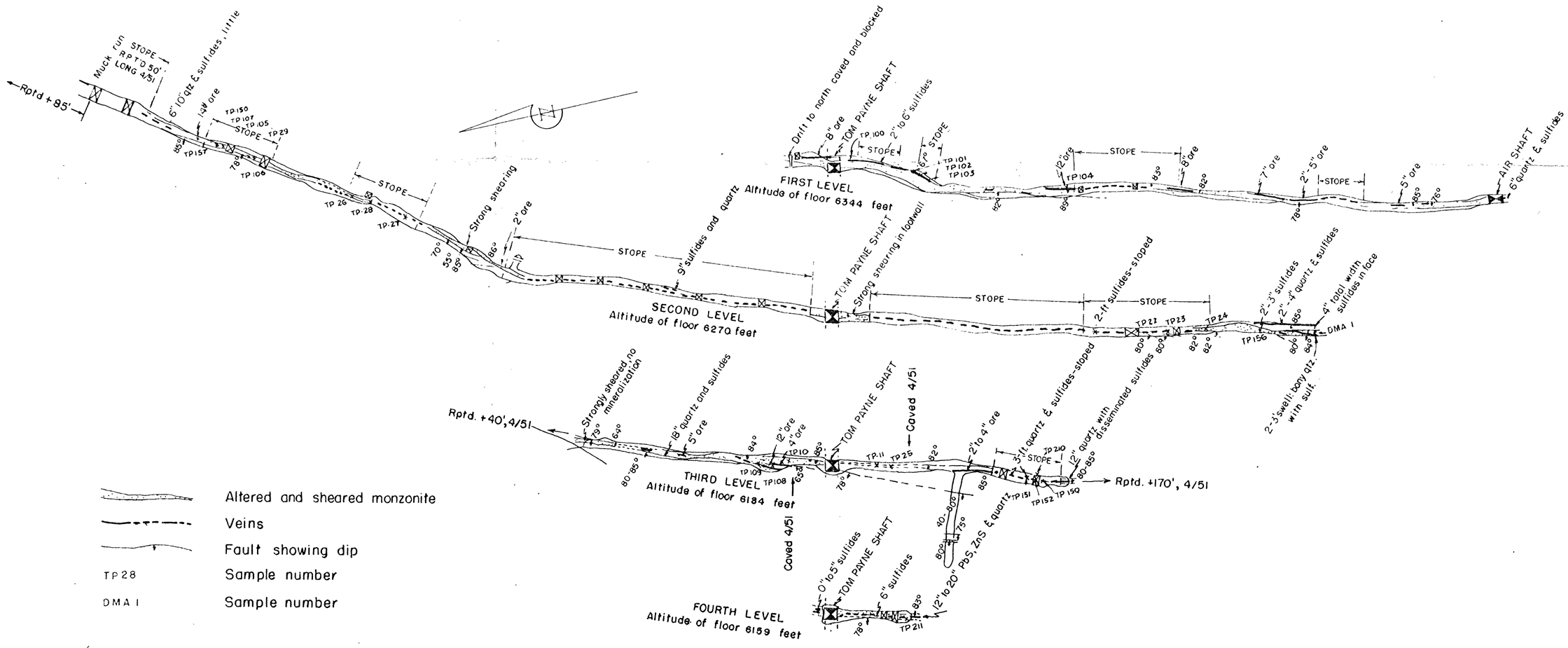
Olaf [illegible] Lowe

[illegible]McKnight:jeh
6-1/13/51

copy to: Chief, Lead-Zinc Branch
Geological Survey - McKnight
C. [illegible] Merrill
S. [illegible] Williston
J. [illegible] Hedges
[illegible]
1 copy to Executive Officer,
Regional Field Team Region IV
Mass Metals Files
Files



COMPOSITE PLAN OF LEVELS



GEOLOGIC MAP OF LEVELS

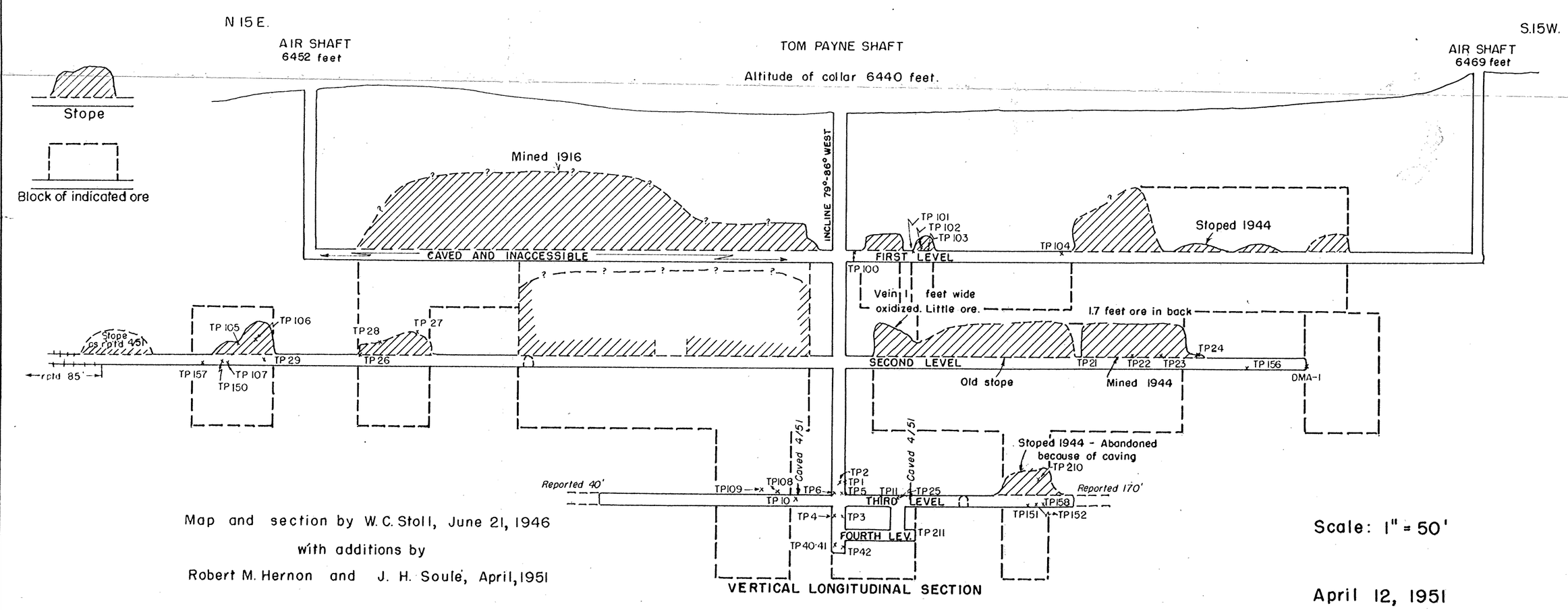
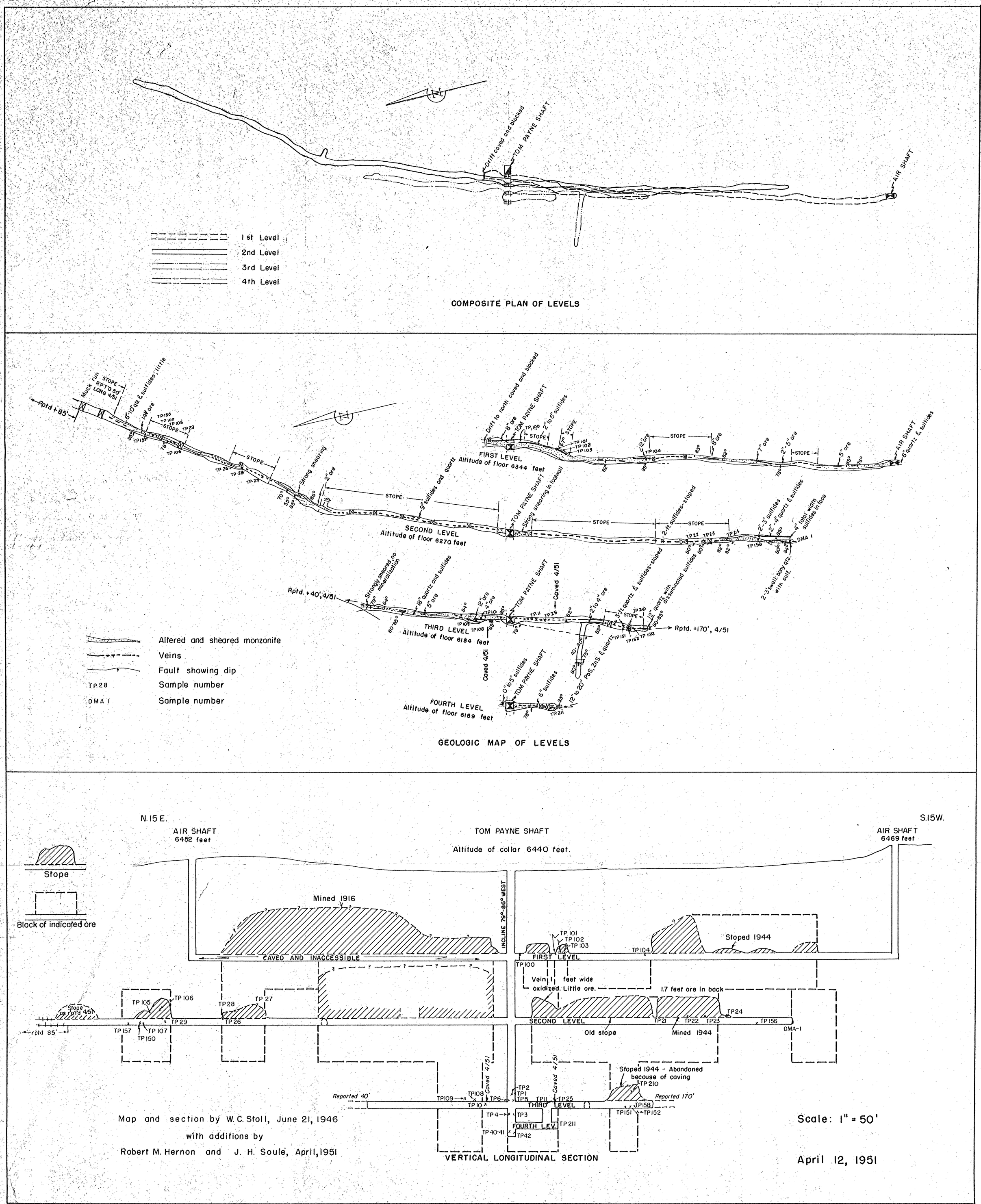


Figure 2.- Tom Payne Mine, North Mining Area, Cerrillos District, Santa Fe County, New Mexico.



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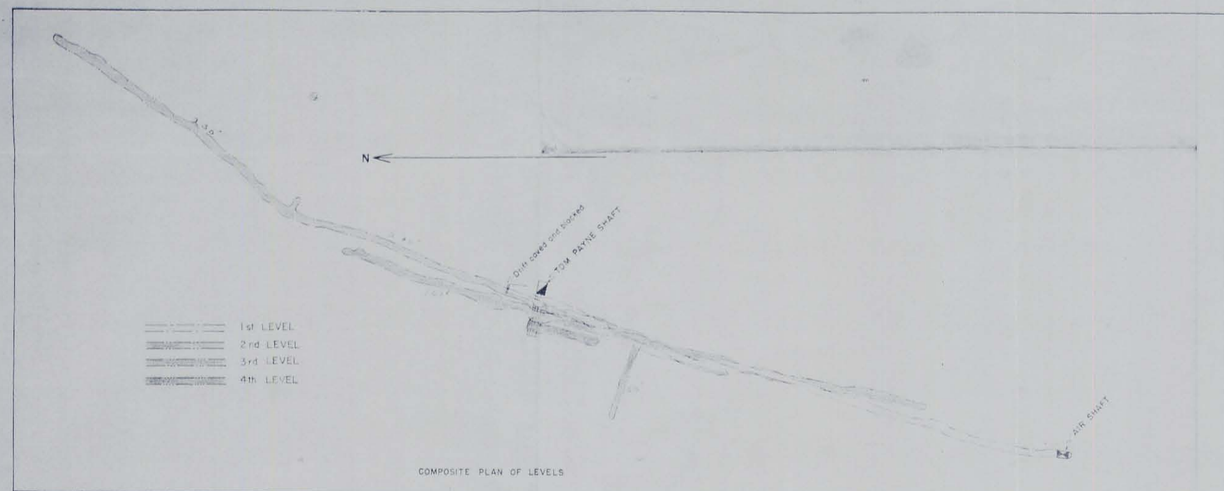
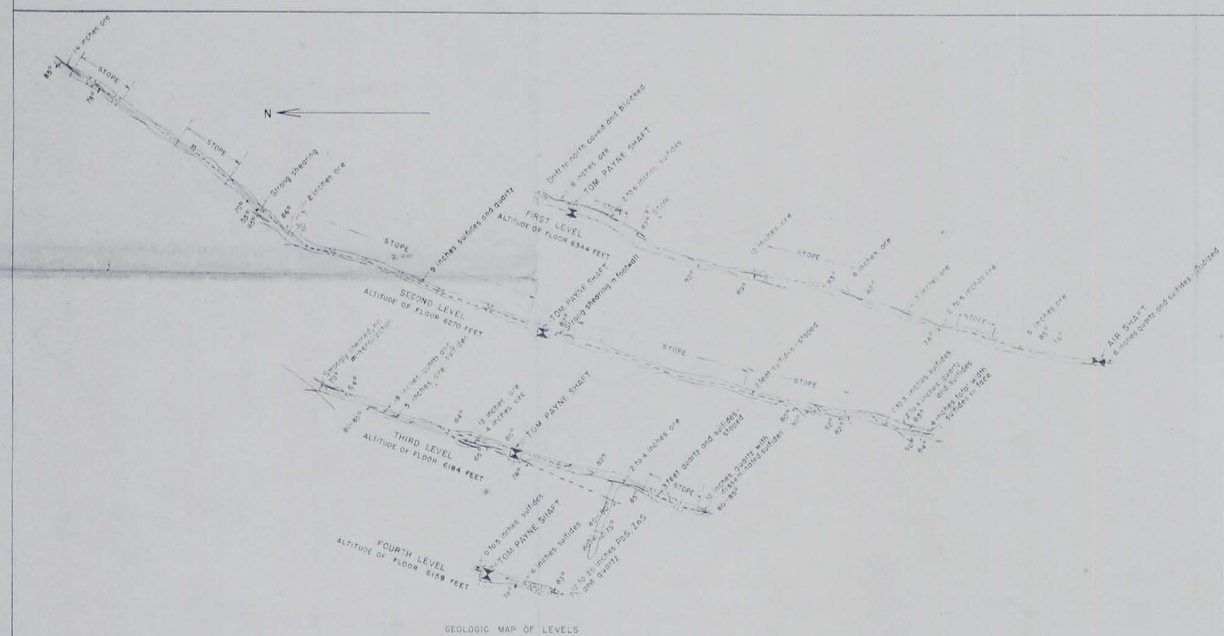
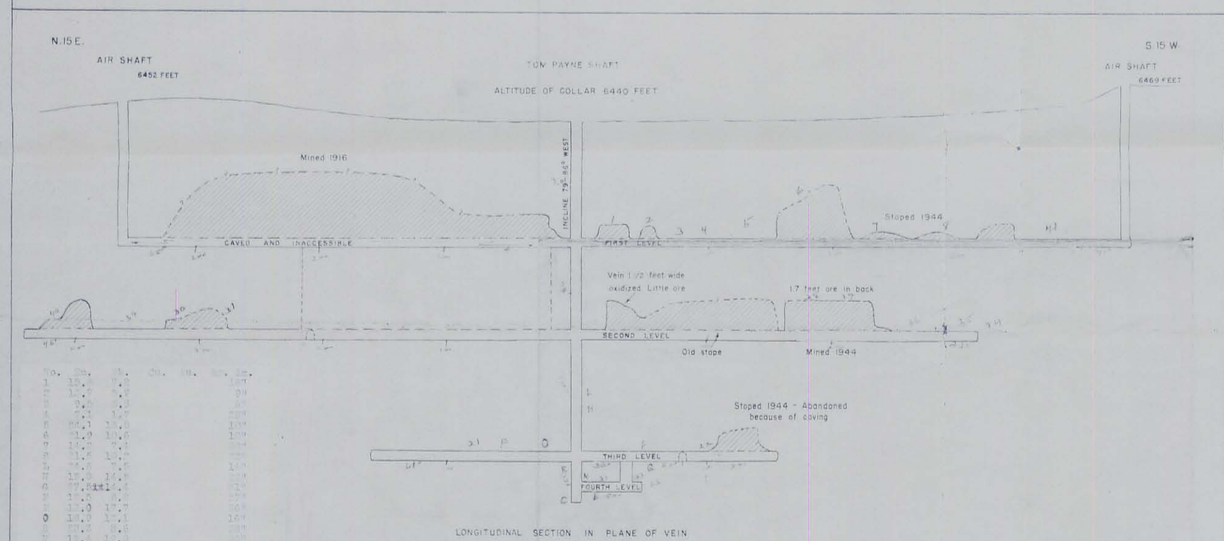


COMPOSITE PLAN OF LEVELS

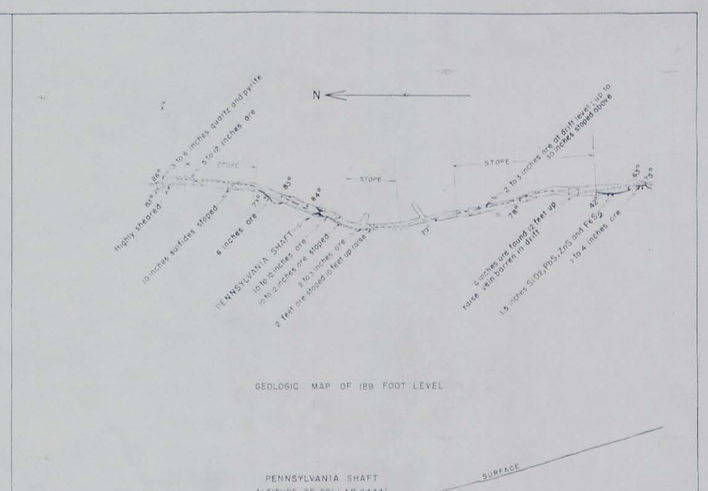


GEOLOGIC MAP OF LEVELS

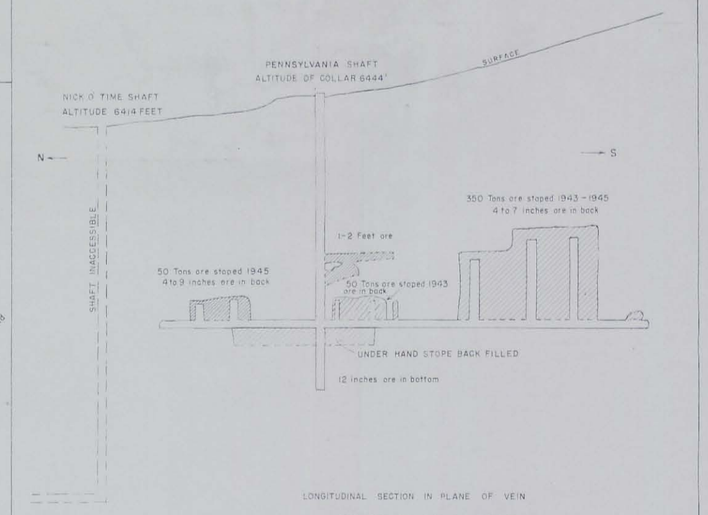


LONGITUDINAL SECTION IN PLANE OF VEIN

TOM PAYNE MINE

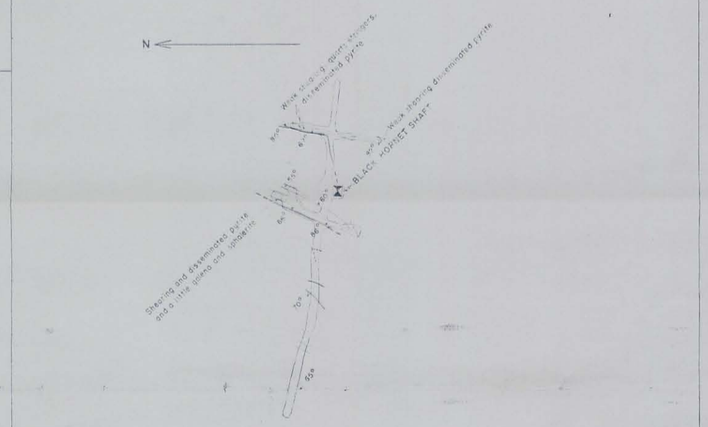


GEOLOGIC MAP OF 189 FOOT LEVEL



LONGITUDINAL SECTION IN PLANE OF VEIN

PENNSYLVANIA MINE



GEOLOGIC MAP OF 100 FOOT LEVEL

BLACK HORNET PROSPECT

EXPLANATION

Ore (zinc-lead, with minor copper and silver)

Vein zone (sheared, altered monzonite) showing dip

Fault, showing dip

Head of inclined shaft

Inclined shaft passing through level

Foot of shaft

Foot of raise or chute

Stope

NORTH MINING AREA, CERRILLOS DISTRICT, SANTA FE COUNTY, NEW MEXICO

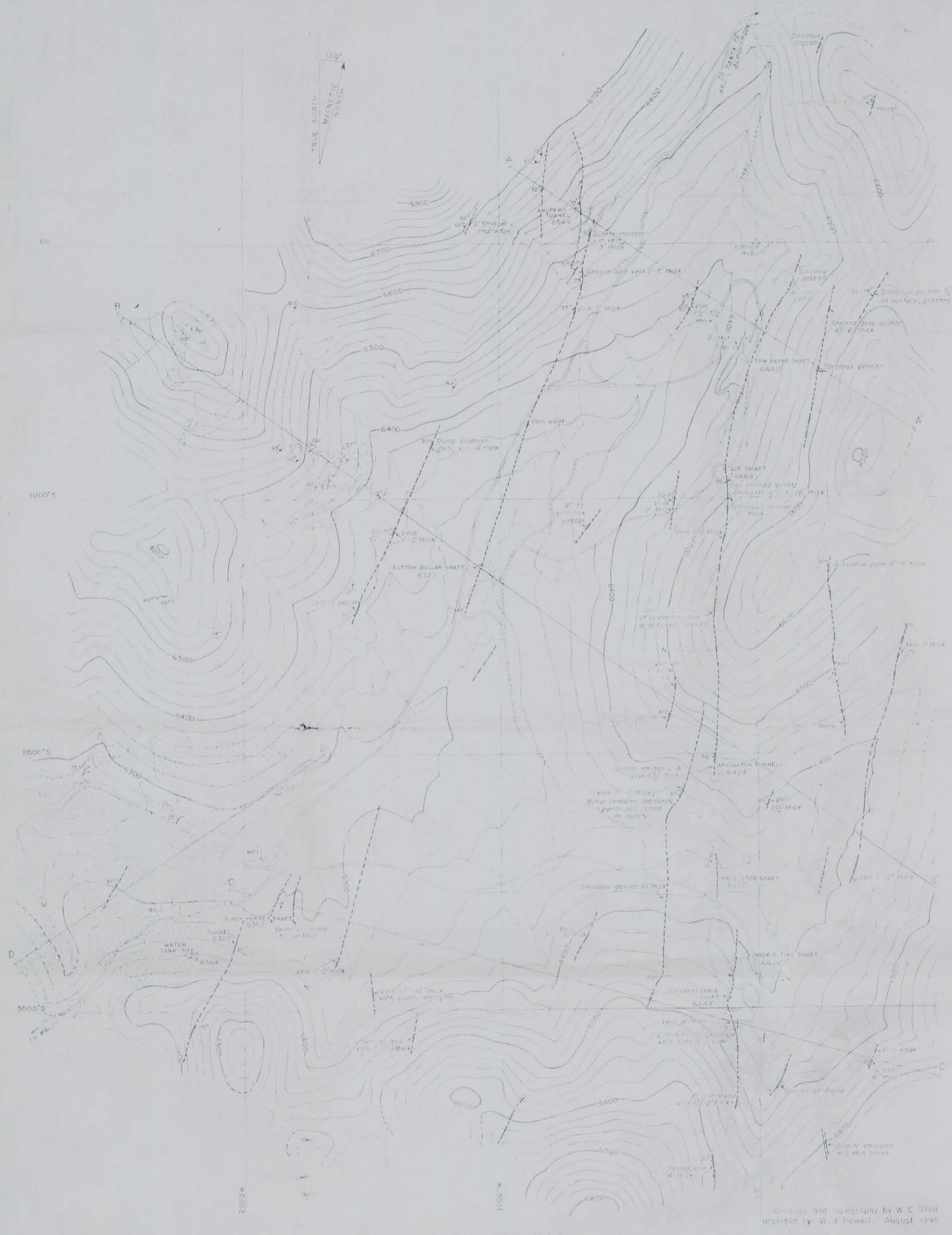
UNDERGROUND WORKINGS OF THE TOM PAYNE, PENNSYLVANIA, AND BLACK HORNET MINES

50 0 50 100 150 Feet

Datum is mean sea level

FIG. 2

Surveyed with compass and tape by W.C. Stoll
assisted by W.J. Powell, Aug. 23-28, 1945



Geology and topography by W. C. Stoll
assisted by W. J. Powell, August 1945

SURFACE MAP

EXPLANATION

QUATERNARY

Alluvium

Trachyte porphyry

CRETACEOUS

Monzonite

Quartzite

80° Vein showing dip

Vein, position approximate

Vein, position inferred

45° Contact showing dip (dashed where approximate)

10° Strike and dip of beds

Horizontal beds

Strike and dip of joint

Vertical joint

Drainage

Open cut and pit

Shaft

Underground workings

Main road

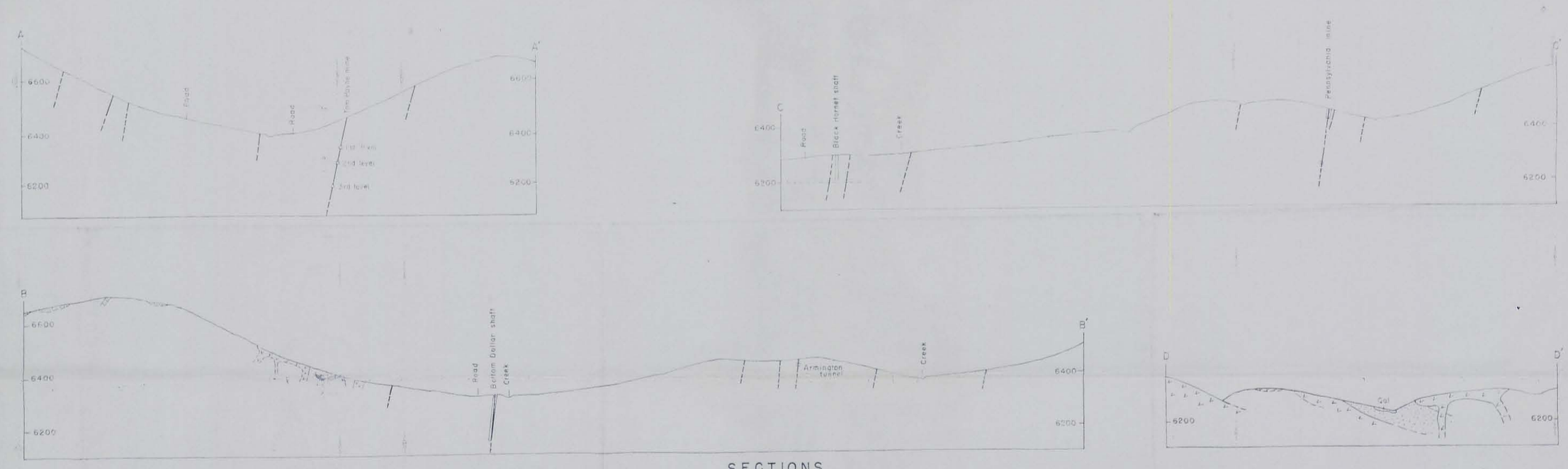
Secondary road

Dump

Scale

0 100 200 400 600 feet

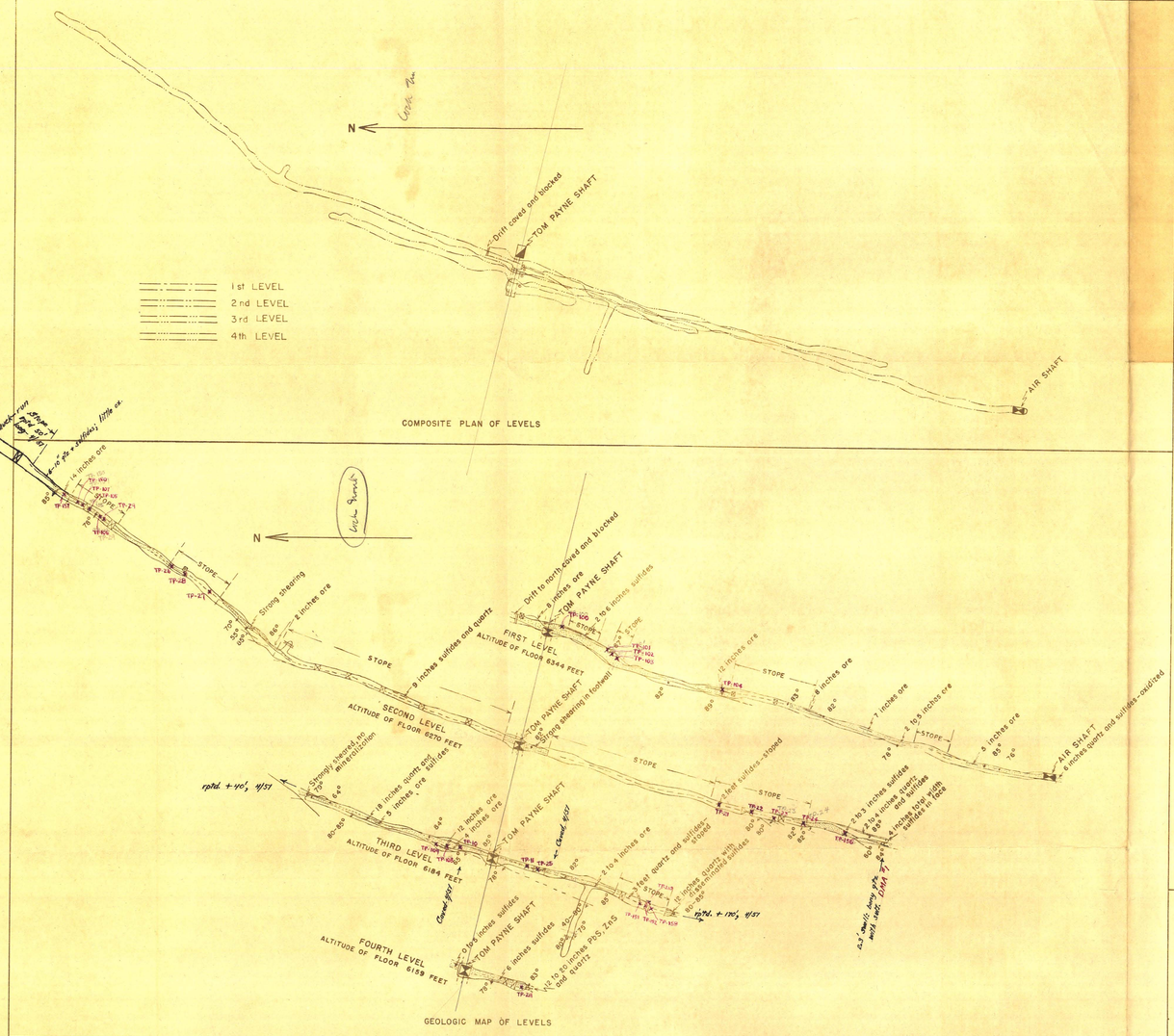
Contour interval 20 feet
Datum is mean sea level

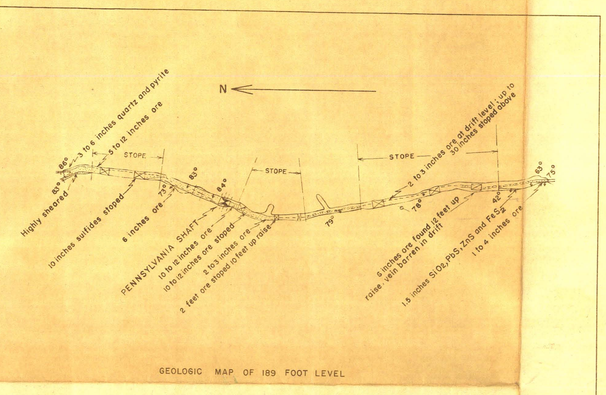


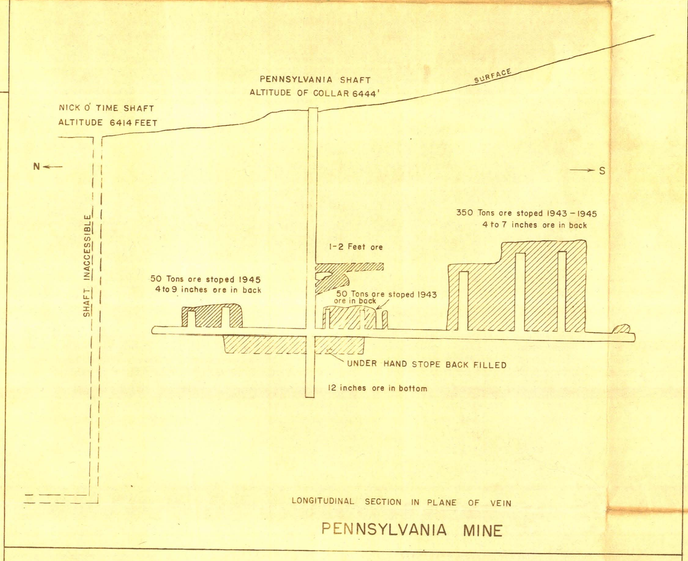
SECTIONS

NORTH MINING AREA, CERRILLOS DISTRICT, SANTA FE COUNTY, NEW MEXICO

FIG. 1







EXPLANATION

Ore (zinc-lead, with minor copper and silver)

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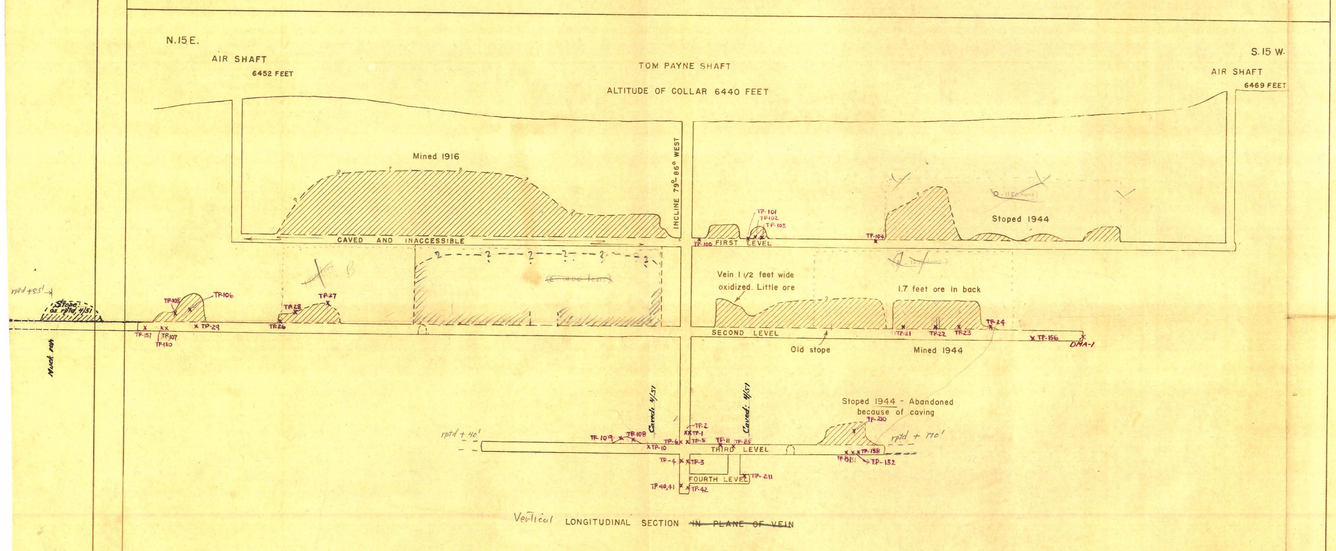

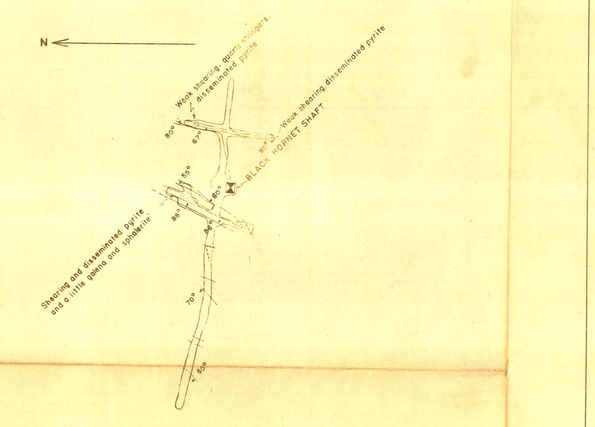

NORTH MINING AREA, CERRILLOS DISTRICT, SANTA FE COUNTY, NEW MEXICO

UNDERGROUND WORKINGS OF THE TOM PAYNE, PENNSYLVANIA, AND BLACK HORNET MINES

50 0 50 100 150 Feet

Datum is mean sea level

FIG. 2

Surveyed with compass and tape by W. C. Stoll
assisted by W. J. Powell, Aug. 23-28, 1945

Docket Copy