OME, REGION III

Statement in Lieu of Semiannual Report

Reporting Period January 1, 1959 to February 1 , 1960
Docket and Contract Number DMEA 2713, Idm-E566, (Lead-Zinc)
Operator Robert F. Blum, (Jean Lode)
Clear Creek County, Colorado

The project has been inactive during the reporting period [x]

Pertinent data relative to the subject contract has remained unchanged since the last report [x]

Remarks: Only maintenance work was done during the reporting period.

Signed H. M. Connors
H. M. Connors

Date February 12, 1960

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

March 6, 1958

Memorandum

To: Wingfield Chamberlaine Statistics Branch
Division of Operation Contract and Statistics

From: Director, Division of Base Metals

Subject: Report of the Semi-Annual Reports of Certified Projects for the Period July 1, 1957 thru December 31, 1957

The following projects were inactive during the cited period.

Docket No.	Contract No.	Name
DMA-2073	Idm-E215	Cuba Mining Company
DMA-2165	Idm-E312	Silver Seal Mines Company
DMA-2184	Idm-E342	Mayer and Thiede Mining Co.
DMA-2213	Idm-E294	Elmer Anderlin
DMA-2234	Idm-E317	Sam Knight Mining Lease, Inc.
DMA-2257	Idm-E442	Walker Corporation
DMA-2358	Idm-E271	Belle Aldridge Gold Mines, Inc.
DMA-2399	Idm-E337	The Eagle Fisher Company
DMA-2482	Idm-E409	Raymond Combined Mines Company
DMA-2495	Idm-E331	Copper Hill Mine Venutre, R.E. Fitzgerald
DMA-2713	Idm-E566	Robert F. Blum
DMA-2843	Idm-E615	Richard E. Chilson
DMA-2929	Idm-E587	Grandview Mines
DMA-2991	Idm-E558	Shenandoah-Dives Mining Company
DMA-3510	Idm-E755	Paul Gills
DMA-3428	Idm-E774	Mt. Wheeler Mines, Inc.

W. R. Griswold

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

February 19, 1958

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period July 1, 1957 to December 31, 1957

DMEA Docket 2713 (Lead-Zinc)
Contract Idm-E566, Robert F. Blum (Jean mine) Clear Creek County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

Original signed by
W. H. KING

Executive Officer, DMEA
Field Team, Region III

Enclosures

cc: Semiannual Report File E566
Harshman
DMEA,DFC - 2
Chron.

EXTRA COPY
RECEIVED FEB 21
DATE
COPY
7/21 wpb. 500

DMEA
DEPARTMENT OF THE INTERIOR
FEB 10 1958
REGION III
DENVER, COLORADO

DMEA, REGION III

Statement in Lieu of Semiannual Report

Reporting Period July 1, 1957, to December 31, 1957
Docket and Contract Number DMEA 2713 (Lead-Zinc) Contract Ida-3566
Operator Robert F. Blum, Jean mine, Clear Creek County, Colorado.

The project has been inactive during the reporting period [x]

Pertinent data relative to the subject contract has remained unchanged since the last report [ ]

Remarks:

Timbers have been hauled up the canyon to repair a bridge. Mr Blum states that part of a cave was cleaned up but there is still about 100 tons to be cleaned out. No ore has been mined. Snow depth at the portal is above three feet.

Signed Carl Belser

Carl Belser

Date February 7, 1958

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

March 13, 1957

EXTRA COPY
DMEA
RECEIVED MAR 15 1957

DATE	INITIALS	CODE
3/15	WRG	~~500~~
	Illeg.	

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period July 1, 1956 through December 31, 1956
DMEA Docket 2713 (Lead-Zinc)
Contract Idm-E 566, Robert F. Blum (Jean Mine), Clear Creek County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

Original signed by
E. N. HARSHMAN

for W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures

MHM/vj

cc: Semiannual Report File E 566
J. F. Shaw (2)
E. N. Harshman
Chron.

DMEA, REGION III

STATEMENT IN LIEU OF SEMIANNUAL REPORT

DMEA
DEPARTMENT OF THE INTERIOR
MAR 13 1957
REGION III
DENVER, COLORADO

Reporting Period: July 1, 1956 to December 31, 1956
Docket and Contract Number: DMEA 2713, I6m-E566
Operator: Robert F. Blum
Jean Mine
Clear Creek County, Colorado

The project has been inactive during the reporting period ☐

Pertinent data relative to the subject contract has remained unchanged since the last report ☒

Remarks:

Mr. Blum was contacted by phone March 8, 1957. Property is inaccessible until about July 1st.

DMEA
RECEIVED MAR 15 1957

DATE	INITIALS	CODE

Signed D. E. Redmon
D. E. Redmon
U. S. Bureau of Mines

Date
March 8, 1957

Grossold
Betty

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

RECEIVED
OCT - 3 1956

224 New Customhouse
Denver 2, Colorado

Date: October 3, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period
January 1, 1956 through June 30, 1956
DMEA Docket 2713 (Lead-Zinc)
Contract Idm-E 566, Robert F. Blum (Jean Mine)
Clear Creek County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office, ~~and~~ Memorandum 29, and Special Notice in Minutes of Operating Committee Meeting No. 692.

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures
MHM/vj
cc: Semiannual Report File E 566
J. F. Shaw (2)
E. N. Harshman
Chron.

DMEA, REGION III

STATEMENT IN LIEU OF SEMIANNUAL REPORT

RECEIVED
OCT - 3 1956

Reporting Period - January 1, 1956 to June 30, 1956
Docket and Contract Number - DMEA 2713, Contract Idm-E566
Operator - Robert F. Blum

"X" one

The project has been inactive during the reporting period [X]

Pertinent data relative to the subject contract has remained unchanged since the last report [X]

Remarks:

Mr. Blum was contacted by telephone on September 20, 1956. The workings have been rehabilitated, but no development work has been done or any ore mined. Mr. Blum has recently suffered financial reverses.

Signed Carl Belser
Mining Engineer

Date September 21, 1956

Original

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
Washington 25, D. C.

224 New Customhouse
Denver 2, Colorado

Date: May 15, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Semiannual Report of Certified Project for the period November 1, 1953 through December 31, 1955
DMEA Docket 2713 (Lead-Zinc)
Contract Idm-E 566 Robert F. Blum, (Jean mine)
Clear Creek County, Colorado

Enclosed are the original and three copies of the subject report prepared in conformance with instructions contained in memorandum of January 6, 1956 from this office and Memorandum 29.

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

Enclosures

RDB/vj
cc: Semiannual Report File E 566
Royalty File E566
J. F. Shaw (2)
E. N. Harshman
Chron.

RECEIVED
MAY 17 1956

Semi-Annual Report of Certified Projects

Reporting Period November 1, 1953, to December 31, 1955

Docket and Contract Number DMEA 2713 Idm-8566

Operator Robert F. Blum

Commodity Lead-Zinc

Mine Name Jean mine

County and State Clear Creek County, Colo.

Date of Contract July 10, 1953

Date of ~~Cancellation~~ Termination December 27, 1954 (effective as of November 1, 1953)

Expiration Date of Royalty Payments July 10, 1963

Date of Examination for this Report Not examined (property inaccessible). Operator Contacted by telephone on April 3, 1956.

Total Amount of Contract $2,800.00

Total Expenditures under Contract $1,800.00

Amount of Government Participation at 50 % $900.00

Royalty Payments this Period None

Previous Royalty Payments None

Total Royalty Payments to Date None

% Loan Repayment Completed 0%

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MAY 17 1956

Amount of Royalty Due None

Royalty Remarks

Original Estimate of Reserves
(from Final Engr.-Geol. Report): 1,125 tons averaging 27 percent combined lead-zinc

Increase of Reserves by work performed subsequent to expiration or termination of contract: None

Revised Estimate of Reserves:

Production this Period (Ore or Concentrates) None

Amount of Previous Production (since date of contract) None

Total DMEA Production to date None

% of Revised Reserves Mined 0%

Production Remarks: The operator worked week-ends at the property during the summer season, July-October, 1955. The work performed was in the nature of preparation for future mining. A new 12-by 16-ft. compressor building was erected at portal of lower tunnel. Work was started on cleaning up the cave near the breast of the lower tunnel. Operator plans to continue work at the property during the coming summer season. Actual mining operations possibly may be started at this time.

Note: On Uranium projects check with AEC to assure that our records are in agreement with theirs.

Other Remarks:

Signed R. L. Bolmer (Engineer)

R. L. Bolmer

IN REPLY REFER TO:

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

RECEIVED
OCT 7 - 1955

October 6, 1955

Re: DMEA 2713, ~~Idm-2566~~
Robert F. Blum
Jean Mine
Clear Creek Co., Colo.
$2,800.00 - Lead, Zinc

Memorandum

To: W. R. Griswold, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team Final report.

The 2-stage project provided for rehabilitation of a tunnel and, if justified, 40 feet of drifting, or crosscutting and raising. Stage I was completed, at a cost of $1,800.00, but no Stage II work was done. The contract was terminated by mutual agreement December 27, 1954. No certificate of discovery was issued, but rights to royalty were reserved. A small tonnage, about 750 tons, of lead-zinc ore was 'discovered' and may some day be mined.

The examiners and Field Team recommended that a certification of discovery be made.

I concur with the recommendation.

N. E. Nelson

N. E. Nelson

NENelson:iml
G-10/6/55

cc: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
O. M. Bishop, 3617

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

RECEIVED
JUN 20 1955

224 New Customhouse
Denver 2, Colorado

June 14, 1955

Memorandum

To: Chairman, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket DMEA-2713 (Lead-Zinc), Contract IDM-E566, Robert F. Blum, Clear Creek County, Colorado

Enclosed are the following final reports pertaining to work completed under the subject contract:

1. the original and one copy of the operator's final report

2. the original and three copies of the final geologic report by the U. S. Geological Survey

3. the original and three copies of the final engineering report by the U. S. Bureau of Mines

Final payment to the operator was processed by this office June 14, 1955 in conformance with the Final Report of Review by the Contract Administration and Audit Division dated January 25, 1955. Final payment was deferred pending receipt of the operator's final report which was received in this office June 13, 1955.

The entire amount of work authorized under the contract was not completed, as the contract was terminated by mutual agreement upon completion of the work approved under Stage I. The exploration work completed consisted of 60 feet of tunnel rehabilitation at an accepted cost of $1,800.00, in which the Government participated to the extent of 50 per cent or an amount of $900.00.

The exploration work resulted in a discovery or development of about 750 tons of inferred ore. The examining engineer and geologist in their reports recommend that the project be certified as a discovery or development, in which this office concurs.

DMEA Field Team, Region III

W. M. Traver

W. M. Traver

Reviewed by
DMEA Contracts Committee
6-24-55
(Date)

for D R Macharen
E. N. Harshman

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DMEA
Date Rec'd.
FEB 15 1955
BUREAU OF MINES

Region III

Building 20, Room 137
Denver Federal Center
Denver 2, Colorado
February 15, 1955

Memorandum

RECEIVED
JUN 20 1955

To: Executive Officer, DMEA Field Team, Region III

From: John F. Shaw, Project Supervisor

Subject: Final Engineering Report, DMEA 2713, Exploration Contract Idm-E566, Jean mine, Robert F. Blum (lead-zinc), Clear Creek County, Colorado.

Enclosed are the original and eight copies of the final engineering report on Contract Idm-E566, which was prepared by R. L. Bolmer, mining engineer.

Contract Idm-E566 consisted of two stages. Stage 1 provided for rehabilitating the caved portion of the lower tunnel. Stage 2, which was dependent upon the results of stage 1, provided for a total of 40 feet of drifting, raising, or crosscutting. The total estimated cost of the project was $2800.00.

The operator completed stage 1, but for financial or other reasons was unable to complete the remainder of the project and requested termination of the contract. The contract was terminated by mutual agreement on December 27, 1954, without a Certification of Discovery. However, the Government reserved all rights provided for in the contract with respect to a Certification of Discovery, percentage royalty, and lien for payment.

A small tonnage of lead-zinc was discovered as a result of the project work and the operator may at some later date mine this ore.

John F. Shaw

John F. Shaw

cc 8
DMEA 2713
Chron

JFS/cm

Reviewed by
DMEA OPERATING COMMITTEE
6-24-55
(Date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
JUN 20 1955

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

FINAL ENGINEERING REPORT

DMEA 2712. Exploration Project Contract Idm-2866

Jean Mine

Robert F. Klum

Clear Creek County, Colorado

Lead-zinc

R. L. Belmer, Mining Engineer

January 28, 1955

REVIEWED BY
6-24-55

DMEA 2713
Contract Idm-E566

JEAN MINE
ROBERT F. BLUM
CLEAR CREEK COUNTY, COLORADO

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JUN 20 1955

CONTENTS

Final engineering report — Page

Summary and introduction..... 1
Location..... 4
History and production..... 5
Ownership and extent..... 5
Description of the deposit..... 5
Ore reserves..... 6
Work completed under contract..... 7
Expenditures..... 8
Equipment..... 9
Efficiency of operations..... 9
Conclusions..... 10
Recommendations..... 10

ILLUSTRATIONS

Figure — Follows page

1. Claim Map, Jean Lode, Clear Creek County, Colorado..... 5
2. Plan and Section, Jean Mine, Clear Creek County, Colorado..... 5

DMEA 2713
Contract Idm-2566

JEAN MINE
ROBERT F. BLEM
CLEAR CREEK COUNTY, COLORADO

RECEIVED
JUN 2 0 1955

FINAL ENGINEERING REPORT

By

N. L. Bolmer

SUMMARY AND INTRODUCTION

Exploration Project Contract Idm-2566, authorizing certain exploratory work for lead and zinc at the Jean mine, Clear Creek County, Colorado, was terminated, effective November 1, 1953, by mutual agreement between the Government and the operator. The termination agreement, dated December 27, 1954, preserved all the rights of the Government provided for in the contract with respect to a certification of discovery or development, percentage royalty, and lien for payment.

Only the first stage of the authorized project—reopening the caved portal of the lower Jean tunnel—was completed. The final stage of the project—40 feet of drifting, raising, or crosscutting—was dependent upon the results of an examination of the old workings behind the cave and was not performed. The deposit exposed in the accessible workings behind the cave proved to be already well developed and did not appear to merit the small additional exploration provided for in the contract. The operator, for financial and other reasons, was unable to complete the remainder of the project within a reasonable period and his request for termination of the contract, therefore, was acceptable to the Government.

A small tonnage of lead-zinc ore was found to exist in the old workings of the mine. Production from this source is economically feasible, and probably will be attempted ultimately by the operator. Inasmuch, as the ore was made accessible through the reopening of the lower Jean tunnel, a certification of discovery or development was recommended for the project.

Application for aid in an exploration project at the property (Docket No. DMEA 2713) was submitted in September 1952. The applicants, Robert F. Blum and R. E. Houston, proposed to reopen, drain, and extend by 40 feet a lower level of the mine at an estimated total cost of $2,800.00. The property was inspected September 30, 1952, by an examining team from the Bureau of Mines and the Geological Survey. The examining team concluded that the deposit was of sufficient merit to justify the reopening of the lower tunnel to permit further examination of the deposit and reappraisal of the latter phase of the proposed project. The reopening and rehabilitation of the lower tunnel for approximately 60 feet from the portal was recommended at a unit cost of $30.00 per foot. A total of 40 feet of drifting, raising, or crosscutting at a unit cost of $25.00 per foot, dependent upon the results of a later examination of the old workings behind the cave, tentatively was recommended.

A short form exploration project contract, designating Robert F. Blum of 242 South Logan Street, Denver, Colorado, as operator, was prepared by the DMEA Field Team, Region III (formerly Region IV) and dated July 10, 1953. In the interim, R. E. Houston had transferred his interest in the property to Blum and withdrawn as an applicant.

The contract authorized the two-stage project recommended by the examining team. The agreed upon estimated cost of the project was $2,800.00. The Government would reimburse the operator for 50 percent of the agreed cost as it accrued for units of work completed in the manner specified in the contract. Project work was to commence within 120 days of the date of the contract and was to be completed within a period of 7 months.

Project work officially began September 1, 1953. Stage 1 of the project--reopening the caved portal--was completed September 11, 1953, and the accessible workings behind the cave were inspected by representatives of the DMEA. At that time, a winze below the tunnel level yet was under water and recommendations regarding Stage 2 of the project were withheld until it also had been made accessible for examination. The operating season was drawing to a close and the operator requested a recess until the following year. Amendment No. 1 to the contract authorized a recess of operations beginning September 11, 1953. It also provided for the resumption of Stage 2 of the project on or before August 1, 1954, and its completion prior to November 10, 1954.

Activity at the property resumed late in July 1954, and continued intermittently throughout the summer. In October, the operator announced that the winze had been unwatered. The Field Team offered to schedule a re-examination but the winze had refilled and the operator was uncertain that it could be pumped out again on a definite date. The vein exposed in the winze, reportedly, was not promising. The second operating season was drawing to a close and the project did not justify further extension. The operator, for financial and other reasons, could not complete the remaining work within the specified period and, therefore, requested termination of the contract.

A total cost of $1,800.00, was reported by the operator and accepted by the Executive Officer, DMEA Field Team, Region III (formerly Region IV) for the work completed under Stage 1 of the contract. Reimbursement to the operator of 50 percent of the reported cost, or $900.00, was approved; $140.00 from the payment due the operator, however, was withheld pending the resumption of work under Stage 2 of the contract. This final amount due the operator was paid in January 1955, after the contract had been officially terminated and upon the release of a Final Report of Review on the project by the Contract Administration and Audit Division and the waiver, by the Executive Officer, of the requirement for a final project report from the operator.

LOCATION

The property is located 44 miles west of Denver at an elevation of 11,500 feet in the Colorado Front Range. It lies just east of the Continental divide in the Dailey or Jones Pass Mining District, in unsurveyed T. 3 S., R. 7 W., sixth principal meridian, Clear Creek County, Colorado. It is accessible west from Empire, Colorado, via 7 1/2 miles of U. S. Highway 40, 2 1/2 miles of State Highway 286 (Jones Pass road), and 3 miles of unimproved private road up Butler Gulch, a tributary of the west fork of Clear Creek. The property lies within Butler Basin, the glacial cirque occurring at the head of Butler Gulch. Heavy snowfall and severe winter weather conditions at the elevation of the mine permit only summertime operation. The 3-mile private road generally becomes accessible early in July and remains open through October or early November.

HISTORY AND PRODUCTION

The past history of the Jean mine is vague and production from the property, if any, is not recorded under the present name. Early day shipments of high grade galena ore are reported. The recorded output of the Jones Pass District is small. The lead-zinc ore bodies mined in the area, reportedly, were high grade but of small extent.

A brother of one of the original applicants formerly leased and later (1943) relocated the property. His operation was confined to spasmodic exploration and development. The brother died and the original applicants relocated the Jean claim in 1952. Other than the usual relocation and accessment work, they constructed the 3-mile access road to the property.

OWNERSHIP AND EXTENT

The operator's property rights designated in the contract include only the single unpatented Jean lode mining claim, the location of which is recorded in the names of the original applicants in Book 245, page 232 in the records of the Clear Creek County Clerk and Recorder's Office, Georgetown, Colorado. It is understood that the designated operator under the contract, Robert F. Klum, bought out the interest of the other original applicant. The property (shown in fig. 1) is a standard size lode mining claim.

DESCRIPTION OF THE DEPOSIT

A fissure vein, which occupies a steeply dipping, northerly trending shear zone in the surrounding Silver Plume granite, has been explored, developed, and, to some extent, mined in the accessible sections of the Jean mine (fig. 2).

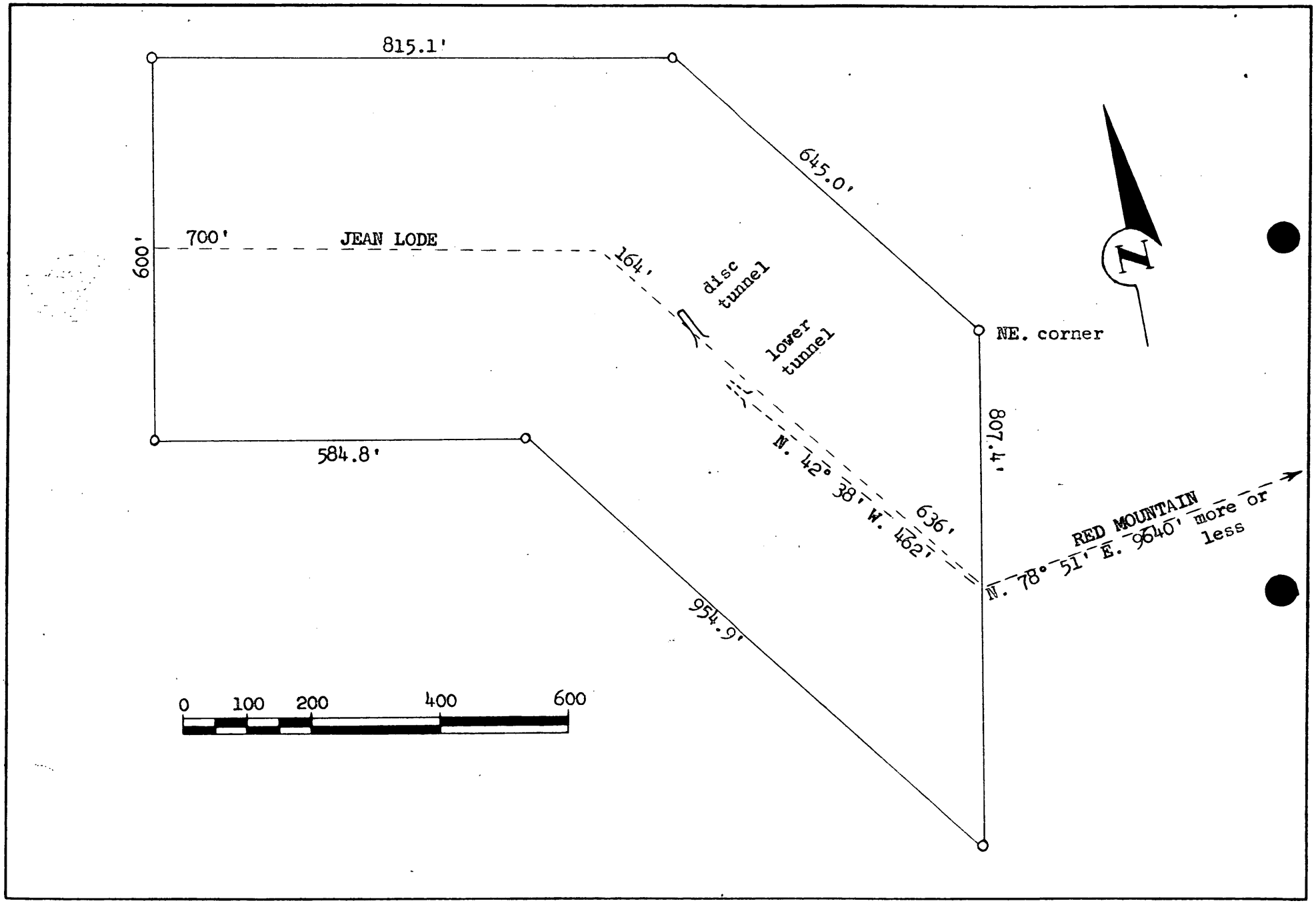
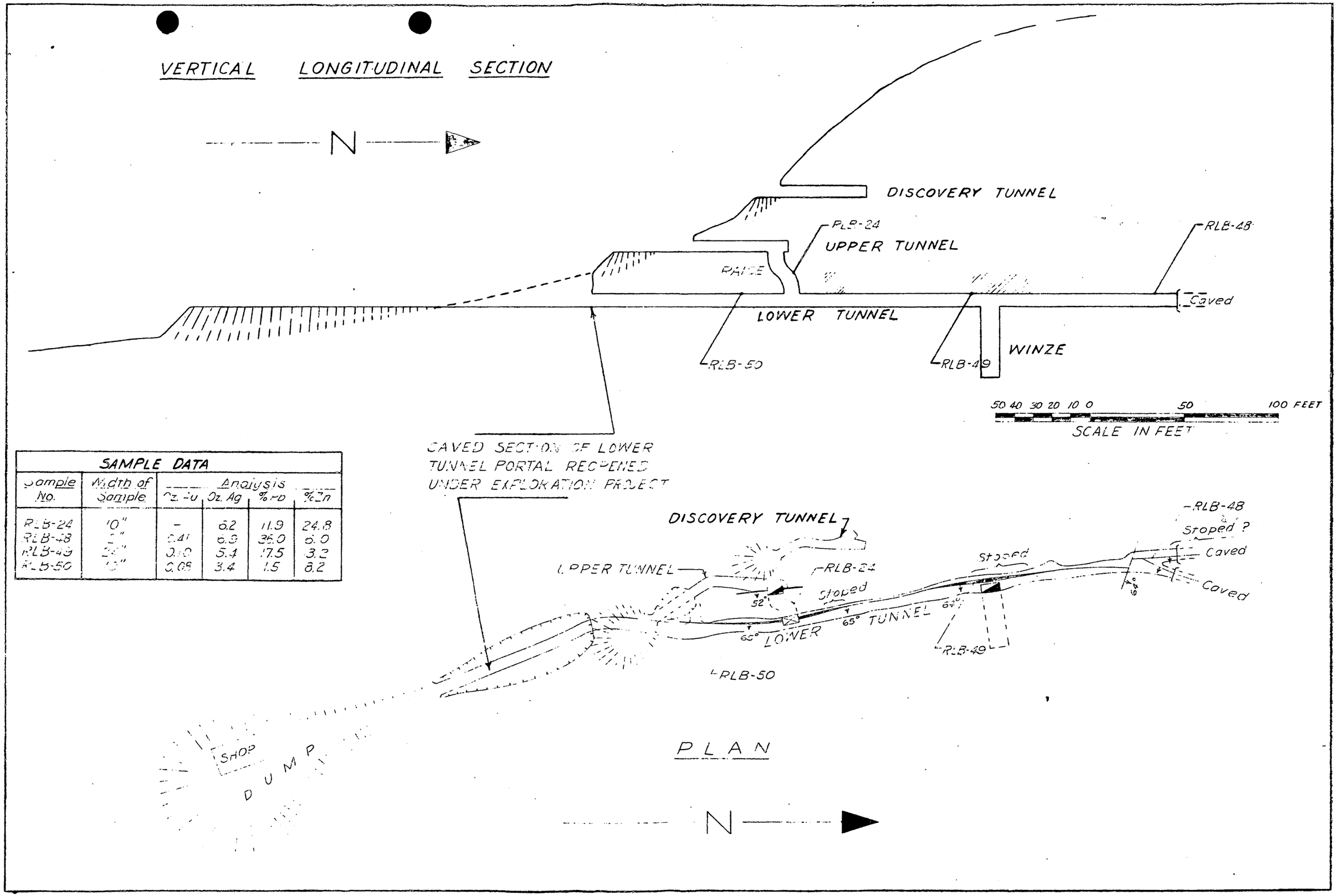


Figure 1 - Claim map, Jean lode, Clear Creek County, Colorado - DMEA 2713 (Contract Idm-E566)



SAMPLE DATA					
Sample No.	Width of Sample	Analysis			
		Oz. Au	Oz. Ag	% Pb	% Zn
RLB-24	10"	–	6.2	11.9	24.8
RLB-48	[illegible]"	0.41	6.9	36.0	6.0
RLB-49	24"	0.10	5.4	17.5	3.2
RLB-50	12"	0.09	3.4	1.5	8.2

FIGURE 2 – PLAN AND SECTION, JEAN MINE, CLEAR CREEK COUNTY, COLO., DMEA 2713 (LEAD-ZINC), CONTRACT Idm.-E566

The shear zone exposed along the discovery tunnel is not mineralized; the same structure exposed 30 feet lower in the far end of the upper tunnel, however, does contain a high grade lense of massive lead and zinc sulfide. This sulfide streak, about 10 inches in width, also is exposed in a connecting raise from the lower tunnel level and along that level for some 30 feet in either direction from the raise.

The vein narrows to a few inches but remains mineralized northerly along the lower level. About 100 feet north of the raise, in the vicinity of a winze below the level, the structure again widens, this time to a maximum width of about 30 inches. This second lense extends for about 25 feet in either direction from the winze and contains less massive, more disseminated mineral. The operator examined the winze when it was unwatered and reports it to extend about 50 feet below the level. The sulfide streak reportedly narrows to a width of about 6 inches in the bottom of the winze.

The vein contains from 1 to 3 inches of massive sulfide along the northern section of the level. About 80 feet north of the winze, the structure splits and the workings, which apparently followed each branch, are caved tightly.

ORE RESERVES

Two lense-shaped ore shoots are exposed in the accessible sections of the mine--one in the vicinity of the raise between the upper and lower tunnel levels and the other in the vicinity of the winze below the lower tunnel. Rough calculations based on the few samples taken (sample locations and analyses are shown on fig. 2) indicate the following reserves for these small ore bodies:

Location	Measured length	Inferred height	Estimated average width	Reserves (Tons)	(% lead-zinc)
Raise	60 feet	80 feet	10 inches	500	23%
Winze	50 feet	80 feet	15 inches	625	30%
			Total:	1,125 tons	27% lead-zinc

WORK COMPLETED UNDER CONTRACT

Only Stage 1 of the authorized project--the reopening of the caved portal of the lower tunnel--was completed. Although materials and supplies had been transported to the site earlier, actual excavation of the caved portal started September 1, 1953.

The portal of the lower tunnel originally was driven in alluvium at the foot of a rather steep slope of the glacial basin. The first few feet were excavated as an open cut. As the depth of overburden increased, maintenance of an open cut was impractical and the tunnel driven underground. Close timbering was necessary until solid bed rock was reached. This timbered section, estimated to be 60 feet in length, had caved and would require cleaning out and retimbering before the old workings would drain and become accessible.

The operator was able to rent a transexcavator for the job. With such equipment, it was possible to excavate the entire caved portal section of the portal as an open cut trench. Hand methods would have necessitated spiling and close timber support for most of the distance. Beginning at the original portal, a caved section 90 feet in length was excavated. Beyond 90 feet, the tunnel was in solid rock and had not caved. The water, which had backed up behind the cave, drained out through the new cut. The deepest sections of the cut, where there was immediate danger due to stuffing of the nearly vertical walls, were

retimbered. The caved portal had been opened and the tunnel made accessible by September 11, 1953. Although not required under the terms of the contract, the operator eventually timbered most of the excavation. The operating season drew to a close before any further work could be completed and the project was officially recessed until August 1, 1954.

Late in July 1954, the operator moved his compressor and other equipment to the property. During the remainder of the season, he repaired a surface building, installed the compressor, and extended track and air pipe into the tunnel. Eventually, the winze below the tunnel level was unwatered, an operation which had held up the decision as to whether the second stage of the project should be approved. The winze refilled with water and the operator was unable, because of equipment failure, to pump it out again for inspection by DMEA representatives. The appearance of the vein in the winze, reportedly, was disappointing. The operating season again had drawn to a close and the operator's request for termination of the contract, therefore, was considered warranted and was approved.

EXPENDITURES

At the completion of Stage 1 of the authorized project in September 1953, the operator reported and claimed reimbursement for costs totaling $1,800.00. This amount—equivalent to the maximum 60 feet of tunnel rehabilitation allowed in the contract at the agreed unit price of $30.00 per foot—was approved by the inspecting engineer and accepted by the Executive Officer, DMEA Field Team, Region III

(formerly Region IV). Reimbursement of 50 percent of the reported costs, or $900.00, was approved; an amount of $140.00, however, was withheld from the payment due the operator pending the resumption of project work after the authorized recess.

Upon the termination of the contract and the release of the Final Report of Review by the Contract Administration and Audit Division, the final amount due the operator was paid. Inasmuch, as Stage 2 of the project was not performed, the $1,000.00, total cost authorized for that phase of the work was not expended and Government funds equivalent to 50 percent of this amount, or $500.00, were unspent.

EQUIPMENT

The unit prices agreed upon in the short form-type of exploration project contract reflect a reduction for the estimated salvage value of any materials or equipment remaining at the completion of the project.

EFFICIENCY OF OPERATIONS

Project operations were hampered by the short operating season and the severe weather conditions normally experienced at high altitudes. The property was isolated and the operator found it difficult to attract and retain experienced workmen. The operator, himself, was in poor health. For this reason and because of his financial condition, he was able to work only part time--mostly on weekends--at the property. Most of his operating equipment, which was transported with difficulty to the site, was old and subject to frequent breakdowns.

CONCLUSIONS

That portion of the authorized project, which the operator did attempt, was completed in the manner specified in the contract. The costs reported for the completed work were those agreed to in the contract. Government reimbursement to the operator for 50 percent of the reported costs, therefore, was justified. The final stage of the project, tentatively authorized under the contract, probably was not warranted and, under the circumstances, termination of the contract by mutual agreement was justified.

Project work made accessible certain small tonnages of lead-zinc ore which the operator eventually will attempt to exploit. While not especially significant, these reserves are considered ample basis for the certification of the project.

RECOMMENDATIONS

Further exploration at the property with Government assistance is not recommended. It is recommended that a certification of discovery or development be issued for the project.

/cm

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

RECEIVED
JUN 20 1955

February 1, 1955

Memorandum

To: Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 2713 (lead-zinc), Contract Idm-E 566, Robert F. Blum, Jean mine, Clear Creek County, Colorado. Final geologic report

Enclosed are the original and 8 copies of a final geologic report by D. R. MacLaren, U. S. Geological Survey, on the subject property.

MacLaren describes the geologic aspects of a small program of exploration carried out under Contract Idm-E 566. The project was terminated by mutual consent after completing rehabilitation work and sampling authorized under Stage I of the subject contract.

Opening the lower tunnel has proven the existence of two small ore shoots containing about 750 tons of inferred ore averaging 5 ounces of silver per ton, 13.60 percent Pb and 14.32 percent Zn. MacLaren recommends that a discovery be certified. He recommends also that no further Government funds be spent on exploration at the Jean mine.

E. N. Harshman

E. N. Harshman
Member, Field Team

Enclosures (9)

ENHarshman:arh

Reviewed by
DMEA OPERATING COMMITTEE
6-24-55
(0336)

JEAN MINE

CLEAR CREEK COUNTY, COLORADO

DMEA Docket 2713

Final Geologic Report

By D. R. MacLaren
U. S. Geological Survey

6-24-55

JEAN MINE
CLEAR CREEK COUNTY, COLORADO
DMEA Docket 2713
Final Geologic Report

INTRODUCTION

Robert F. Blum of Denver, Colorado, and the Defense Minerals Exploration Administration signed contract Idm-2566 on July 10, 1953, for the purpose of exploring for lead and zinc ores in the Jean mine, Dailey or Jones Pass mining district, Clear Creek County, Colorado. The contract was set up on two stages and was estimated to cost a total of $2,800 of which the Government would provide 50 percent or $1,400. Stage I provided for cleaning out, spiling, and retimbering an estimated 60 feet of tunnel that was caved at the portal. Stage II provided for 40 feet of drifting, raising, and/or crosscutting. The only amendment to the contract changed the date of completion of the work from "within a period of seven months from the date of the contract" to "prior to November 10, 1954," and authorized a recess upon completion of Stage I "on or about September 11, 1953," work to be resumed under Stage II "on or before August 1, 1954." The contract was terminated by mutual agreement December 27, 1954, after completion of Stage I and before any work was started under Stage II.

The Jean mine is located about 13 miles west of the village of Empire, Colorado, from which it is reached by following U. S. Highway 40 for 7-1/2 miles west, thence State Highway 286 for 2-1/2 miles west, and thence a poor dirt road, little more than a trail, for 3-1/2 miles west.

Situated at an altitude of 11,500 feet, the property is accessible only four or five months of the year.

GEOLOGY

The Jean mine is entirely within an area of Silver Plume granite. A sheeted zone in the granite, 5 to 8 feet thick, strikes from N. 5° E. to N. 5° W. and dips 52° - 60° E. and contains streaks and lenses of lead and zinc sulfides. Elsewhere in the district, small high grade ore shoots have been mined in the past, from similar sheeted zones in granite.

Two tunnels, 27 feet apart vertically, follow the sheeted zone at the Jean mine. The upper tunnel, which is 50 feet long, follows a barren zone for 30 feet. In the remaining 20 feet a small sulfide stringer rapidly widens to about 18 inches of galena and sphalerite, in about equal amounts, and pyrite in a quartz gangue. A few feet back from the breast of the tunnel is a small stope that has holed through from the lower tunnel.

A caved portion at the portal of the lower tunnel was cleaned out and retimbered under Stage I of the contract. The tunnel (Fig. 1) is in barren granite for 65 feet, at which point a weak vein of quartz with a few small crystals of galena, sphalerite, and pyrite enters the tunnel from the west wall. Within a distance of 15 feet the vein, which strikes north to N. 12° W. and dips 64° - 65° E. widens to 6 inches and is filled by galena and sphalerite with some pyrite in a gangue of quartz. Continuing northerly, the vein widens and pinches forming lenses, the largest

of which is about 40 feet long and up to 24 inches wide. Between lenses the vein averages one-half inch to one inch thick and contains only sparse amounts of the sulfide minerals. About 290 feet north of the portal the vein is offset 5 feet to the west by a fault that strikes N. 72° W. and dips 64° N. Six feet beyond the fault the vein splits. Both splits have been followed by drifts which have caved at a distance of 315 feet from the portal. Throughout the entire distance that the tunnel is open, the wall rock is silicified and sheeted granite, to which the vein is tightly frozen.

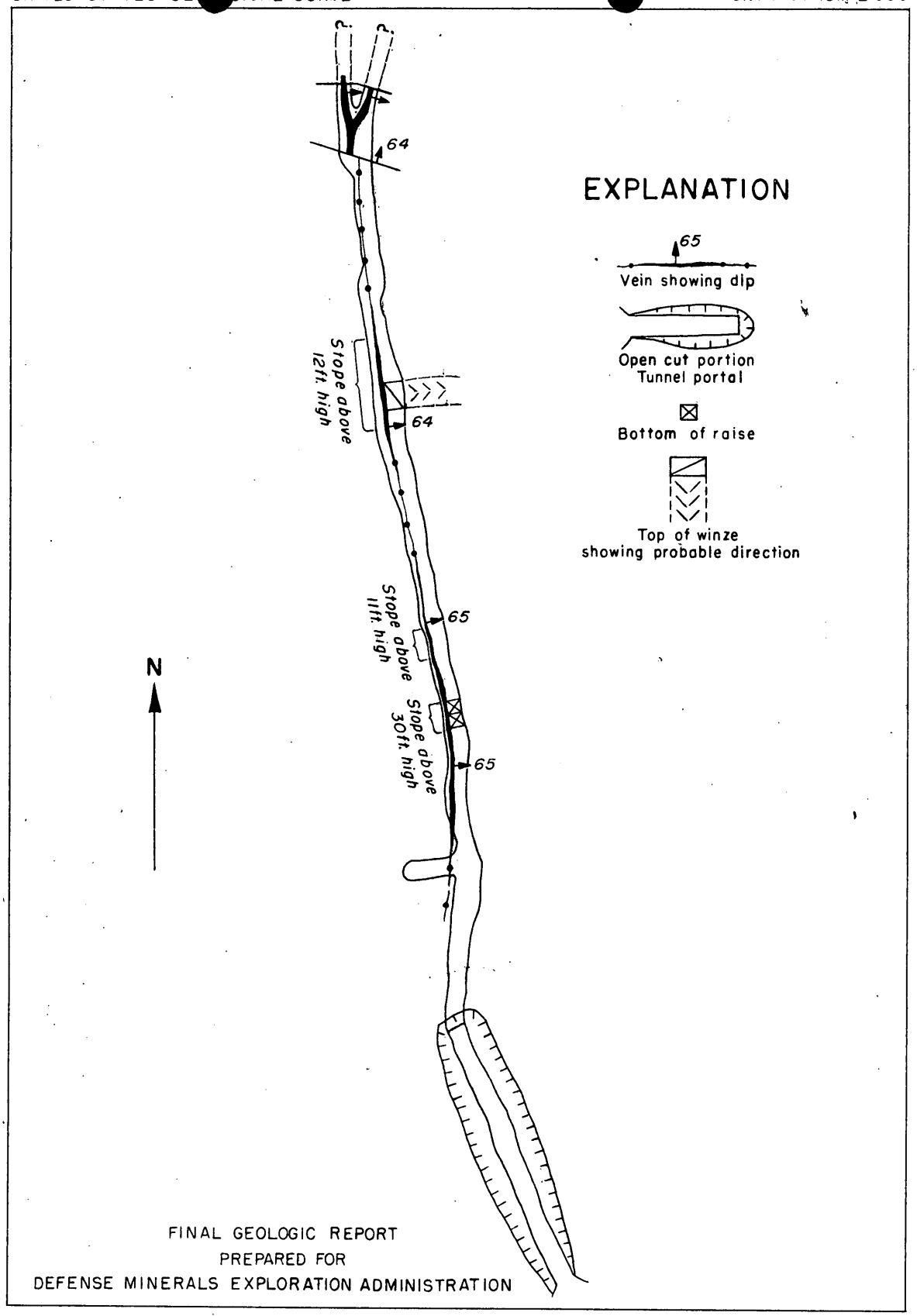
At a distance of 100 feet from the portal a small stope, 10 to 12 feet long, extends to the upper tunnel. Two other stopes above the level are 10 feet long by 11 feet high, and 30 feet long by 12 feet high, respectively. A winze below the last stope has been flooded at the time of each inspection. The operator stated that, during the summer of 1954, he had unwatered the winze to a depth of 35 feet but that he had let it re-fill because the vein pinched out a few feet below the tunnel level.

CONCLUSIONS

It is concluded that opening the lower tunnel has resulted in finding two small ore shoots which taken together contain no more than 750 tons of inferred ore having an average grade of 0.09 ounces gold and 5.20 ounces silver per ton, 13.60 percent lead and 14.32 percent zinc. These figures are based upon the assays of four samples taken by the U. S. Bureau of Mines examiner and the assumption that two ore shoots, 50 and 60 feet long, respectively, and 1 foot wide will extend 30 feet

above and below the level. The caves in both splits at the north end of the tunnel are making considerable water, and it is therefore concluded that stopes have been mined to the surface on any ore that might have existed beyond the points of cave.

Although the tonnage is small, it has a value of something over $25,000. Therefore, it is recommended that a discovery be certified. It is also recommended that no further Government funds be spent on this property.



Geology by D. R. Mac. Laren, November 1954

FIGURE 1--PLAN SHOWING WORKINGS AND GEOLOGY, LOWER TUNNEL, JEAN MINE, CLEAR CREEK COUNTY, COLORADO

50 25 0 50 Feet

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

RECEIVED
JUN 23 1955

224 New Customhouse
Denver 2, Colorado

June 20, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2713 (Lead-Zinc), Contract IDM-E566, Robert F. Blum, Clear Creek County, Colorado - FINAL PAYMENT - September, 1953

Enclosed are two copies of the Operator's Monthly Progress Report, form MF-104 and MF-104A, Operator's Narrative Report, Inspecting Engineer's Narrative Report and other supporting data pertaining to work under the subject contract for the month of September, 1953.

Final payment to the operator has been made as indicated by the attached material.

W. M. Traver

Enclosures

This is all that was paid

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

RECEIVED
JUN 23 1955

224 New Customhouse
Denver 2, Colorado

June 14, 1955

Memorandum

To: T. A. Christensen

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-2713 (Lead-Zinc), Contract IDM-E566, Robert F. Blum, Clear Creek County, Colorado - FINAL PAYMENT

Reference is made to our memorandum of September 18, 1953 whereby we transmitted form MF-104, Operator's Monthly Report and Voucher for the month of September, 1953 and instructed you to withhold the amount of $140.00 from reimbursement to the Operator pending authorization of Stage II work or termination of the contract.

The contract has been terminated by mutual agreement and the Operator's Final Report was received June 13, 1955; therefore, we recommend that final payment to the Operator be made on the following basis, which is in conformance with the Report of Review by the Contract Administration and Audit Division dated January 25, 1955:

Basis for Final Payment

Total Accepted Cost - - - - - - - - - - - -	$1800.00
Government Participation at 50% - - - - -	900.00
Total Prior Payments - - - - - - - - - - -	760.00
Balance Due the Operator - - - - - -	$ 140.00

W. M. Traver

JWT:sr

W. M. Traver

cc Sec. Op. Comm. (2)
Shaw
Townsend
Subject
Chron

Paid $140.00
Randell R. Cooper
Authorized Certifying Officer
6-17-55 DMA-55-98

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

RECEIVED
JUN 20 1955

224 New Customhouse
Denver 2, Colorado

June 14, 1955

Greenwalt
Betty

Memorandum

To: Chairman, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket DMEA-2713 (Lead-Zinc), Contract IDM-E566, Robert F. Blum, Clear Creek County, Colorado

Enclosed are the following final reports pertaining to work completed under the subject contract:

1. the original and one copy of the operator's final report

2. the original and three copies of the final geologic report by the U. S. Geological Survey

3. the original and three copies of the final engineering report by the U. S. Bureau of Mines

Final payment to the operator was processed by this office June 14, 1955 in conformance with the Final Report of Review by the Contract Administration and Audit Division dated January 25, 1955. Final payment was deferred pending receipt of the operator's final report which was received in this office June 13, 1955.

The entire amount of work authorized under the contract was not completed, as the contract was terminated by mutual agreement upon completion of the work approved under Stage I. The exploration work completed consisted of 60 feet of tunnel rehabilitation at an accepted cost of $1,800.00, in which the Government participated to the extent of 50 per cent or an amount of $900.00.

The exploration work resulted in a discovery or development of about 750 tons of inferred ore. The examining engineer and geologist in their reports recommend that the project be certified as a discovery or development, in which this office concurs.

DMEA Field Team, Region III

W M Traver
W. M. Traver

for D R MacLaren
E. N. Harshman

Operations
Final Defer

Enclosures

DMEA
Date Rec'd.
JUN 13 1955
BUREAU OF MINES
Denver, Colorado

RECEIVED
JUN 20 1955

Denver, Colorado.
June 9, 1955.

J.W.Townsend Ex. Officer DMEA.
Field Team Region, #3.

DMEA 2713 Contract Idm- E566.
Jean Mine, Clear Creek County.

Dear Sir:-

Report on the execution and findings of part one of this contract.

Work was started on rehabilitation of portal and tunnel early in July, 1953, and completed September 15, 1953. The conditions encountered after the water was drained from the tunnel level were very good. About 275 feet of the main tunnel with a fault near the breast and some caving and slipping. The lower tunnel shows ore on about 150 feet varying in width from 2 inches to a maximum of 24 inches. The ore is lead, zinc, silver and gold, with about one thousand tons on the widest part of the vein which might be mineable if width and grade of ore hold or improve.

Due to short season work was discontinued in October 1953, and recess asked on part two of contract which was granted to extend to November 10, 1954. Part time work resumed July 1, 1954, in preparation for exploration of veins, such as repairing buildings installing airline and compressor, and tunneling balance of portal to protect from snow and caving. Pumped water from winze which was found to be about fifty feet deep and on the vein, but did not get any work done pertaining to part two of the contract, so asked for termination of part two of contract which was granted December 27th, 1954. I expect to resume work in July 1955.

Yours truly,

Robt. F. Blum

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

224 New Customhouse
Denver 2, Colorado

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 2 1953

September 28, 1953

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Form MF-104, DMEA Docket 2713, Contract Idm-E566 (Lead-Zinc), Robert F. Blum (Jean Mine), Clear Creek County, Colorado.

Enclosed are two copies of the Operator's Monthly Progress Report Form MF-104 and MF-104A, Operator's Narrative Report, Inspecting Engineer's Narrative Report, and other supporting data for the period of September, 1953, pertaining to DMEA Docket 2713, Contract Idm-E566, Robert F. Blum (Jean Mine), Clear Creek County, Colorado.

W. H. King

W. H. King

Enclosures

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION IV

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT - 2 1953

Administrative Audit Difference Statement

Date: September 24, 1953
Payee's
Reference: Progress
Report - September, 1953

Robert P. Blum
222 So. Logan
Denver, Colorado
I-DMA-S-566

Upon examination of the above Payee's Reference a difference was found which made it necessary to suspend your account accordingly:

Amount Claimed $ 900.00

Difference $ 140.00

Amount Approved $ 760.00

The reason for the difference was due to:

Amount claimed by operator is $1800.00
50% of $1800.00 equals $900.00
$140.00 withheld pending authorization of work on Stage II or termination of contract.

Any reclaim for deductions made above must be supported by the ORIGINAL of this form.

Very sincerely yours,

N. E. Stokes
Audit Section

R-IV-B & F Form No. 4
4-15-52 D

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 2 1953

224 New Customhouse
Denver 2, Colorado

September 18, 1953.

Memorandum

To: T. A. Christensen

From: Executive Officer, DMEA Field Team, Region IV

Subject: DMEA Docket 2713, Contract Idm-E566 (Lead-Zinc), Robert F. Blum (Jean Mine), Clear Creek County, Colorado. Operator's Monthly Progress Report for the period September 1953.

Enclosed are the original and four copies of Form MF-104 and MF-104A, Narrative Report, and Engineer's Report for the above period.

Work has been completed as authorized by the contract. No documentation is required for work performed under contracts prepared on Form MF-200A, therefore we recommend that payment be made for 50 percent of the amount reported by the Operator on Form MF-104, contingent on your verification of arithmetical accuracy within the report.

The amount of $140.00 is to be withheld from the Government participation pending the authorization of Stage II work or termination of the contract.

Remarks:

Date of Report	September 15, 1953.
Date Received in Field Office	September 14, 1953.
Date Received in Region Office	September 18, 1953.

W. H. King
W. H. King

Enclosures
RDB:cwm

cc: Contract
Secretary to the Oper. Comm. (2)
WMTraver
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
September 17, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA 2713, Contract Idm-E566 (Lead-zinc), Robert F. Blum (Jean mine), Clear Creek County, Colorado - Progress report for September 1953

Enclosed are the original and four copies of the initial progress report for September 1953 on the Jean project--forms MF-104 and MF-104A with narrative--and the original and six copies of R. L. Bolmer's memorandum covering inspection of the portal rehabilitation and checking of the reporting forms. The contract is one prepared on short form MF-200(A) with two phases of work on a unit-cost basis. Documentation is not required.

Phase 1 has been completed satisfactorily and consisted of rehabilitating 60 feet of the Jean mine tunnel portal. Bolmer inspected and confirms completion of the work and finds the entries and extensions on the reporting forms correct.

As soon as the operator moves a compressor to the mine and removes the water from a winze, a re-examination of the accessible working and the winze can be made by our engineer and a Geological Survey geologist to determine if Stage 2 of the project should be authorized.

Payment is recommended and certified on the MF-104 form of $900.00 or 50 percent of the total $1,800.00 claimed by the contractor.

W. M. Traver

W. M. Traver

enclosures

WMT/kp

cc 4
E566
DMEA Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
September 16, 1953

Memorandum

To: Chief, Mineral Resources Branch, Mining Division, Region IV

From: R. L. Bolmer

Subject: DMSA 2713, Contract Idm-8566 (lead-zinc), Robert F. Blum (Jean mine), Clear Creek County, Colorado - Progress report for September 1953

Progress under the subject short-form contract was inspected September 11, 1953, with the operator and D. R. Maclaren, Geological Survey. The progress reported in the operator's narrative and shown on form MF-104A was confirmed during the inspection.

The operator has designated September 1, 1953, the date actual rehabilitation of the tunnel commenced, as the official starting date under the contract. Actually, much of the preliminary work was performed during July and August.

The operator was fortunate in obtaining a traxcavator for excavation of the greater portion of the caved portal. With this equipment, it was possible to excavate the portal as an open cut trench. Hand methods would have necessitated spiling and close timber support for most of the distance. Beginning at the original portal, a caved section 90 feet in length was excavated. Beyond 90 feet the tunnel was in solid rock and had not caved. The operator correctly claims reimbursement for only the maximum 60 feet authorized for Stage 1 in the contract. The operator placed five timber sets in the deepest section of the cut where there was an immediate danger from the sluffing of the nearly vertical walls of the trench. Although not considered necessary under the terms of the contract, the operator eventually intends to timber most of the trench.

The lower tunnel level was examined, mapped, and sampled. A fissure vein, containing from a few inches to a foot of high-grade lead and zinc sulfide, had been followed by the tunnel for at least 300 feet. Beyond that distance, drifts on two splits in the vein had

caved tightly and could not be examined. A winze of unknown depth below the level was flooded and could not be examined. It probably will be necessary to examine the winze before any conclusions regarding Stage 2 can be reached. The operator intends moving a compressor to the property and unwater the winze, at which time the mine will be re-examined.

Total costs of $1,800.00 (60 feet of rehabilitation at a unit cost of $30.00 per foot) are reported by the operator for the period. Both the footage and the unit cost reported are authorized by the contract. Documentation of costs is not required of contracts prepared on form MF-200(A). Work has been accomplished as authorized in the contract and payment of 50 percent of the costs reported on form MF-104, or $900.00, is recommended subject to review by the regional office and verification of the applicable rates and the correctness of the arithmetical accuracy of computation.

R. L. Bolmer

R. L. Bolmer
Mining Engineer

RLB/kp

cc. 6
E566
DMEA Chron

NARRATIVE REPORT
For Month of September 1953

DMEA 2713, Contract Idm-E566 (Lead-zinc)
Jean mine, Clear Creek County, Colorado

Preliminary work of transporting timber and supplies to the property was performed by the operator during July and August 1953. Actual rehabilitation of the portal of the lower tunnel commenced September 1, 1953. The first 90 feet of the lower tunnel portal was excavated as an open cut trench by means of a Caterpillar D4 Traxcavator. Beyond 90 feet from the portal the walls of the tunnel were in solid rock and further rehabilitation was unnecessary. Water in the tunnel was drained and the balance of caved material in the portal section was removed by hand. Five sets of timber were placed in the cut between 72 and 90 feet from the portal and lagged solid.

Work performed this period completes Stage I of the contract. Approximately 300 feet of the lower tunnel level now are accessible for examination by the DMEA representatives to determine if the work authorized under Stage II of the contract is warranted.

Robert F. Blum

Robert F. Blum
Operator

04A
(Rev. 2)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 2 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of September 1953 Docket No. DMEA 2713 Contract No. Idm-2566
Operator's Name Robert F. Blum Minerals Lead-Zinc
Address 252 South Logan Street, Denver 9, Colorado

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting	ft.						40	$ 25.00
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Rehabilitation	ft.	$1,800.00	60	$1,800.00	60	$30.00	60	$ 30.00
TOTAL DISTRIBUTED COSTS		$1,800.00		$1,800.00				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$1,800.00		$1,800.00				$ 2,500.00

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

Date September 15, 1953 Operator Robert F. Blum
Robert F. Blum
Per Title Operator

REMARKS:

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

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

F[illegible] Rev.)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT - 2 1953

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of September 15, 195 3 Docket No. DMEA 1713 Contract No. Idm-1566
Operator's Name Robert F. Blum, Minerals Lead-Zinc
Address 252 South Logan Street, Denver 9, Colorado
Contract Amount, $ 2,800.00 Government Participation: 50% Amount, $ 1,400.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) [redacted] Short Form } Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
Rehabilitation	$ 1,800.00	—	$ 1,800.00			
(2) Labor and Supervision:						
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	$ 1,800.00	—	$ 1,800.00	1660.00		1660.00

I certify that the above bill is correct and just and that payment therefor has not been received.

Date September 15, 1953 *Payee Robert F. Blum
Per _____ Title Operator

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

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

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 760.00

Signature _____
(Authorized Certifying Officer)

Date 9/24/53 Vou. No. DMA 54-31
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. 8-566 in accordance with the terms of the contract.

Signature R. Palmer, $900.00 Mnt Title Mining Engineer Date SEP 16 1953

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: L. D.B.

Signature W. H. King Title Executive Officer Date SEP 18 1953

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

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

224 New Customhouse
Denver 2, Colorado

July 9, 1953

Griswold
Betty

Memorandum

To: Administrator, DMEA, Attention: Code 200

From: DMEA Field Team, Region IV

Subject: Final Report, Docket No. DMEA-2713, (Lead-Zinc), R. F. Blum and R. E. Houston, Applicants, Jean Mine, Clear Creek County, Colorado

Enclosed are the original and three copies of the final report on the subject docket.

The contract has been prepared in this office and is now in force.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

F.T. Rept of Exam

Reviewed by
DMEA OPERATING COMMITTEE

7-17-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

February 20, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket R713, (Lead-Zinc) R. F. Blum and R. E. Houston, Jean Mine, Clear Creek County, Colorado.

Enclosed are eight copies of the final engineering report on the subject docket.

The applicants requested $2,800.00 to rehabilitate the lower tunnel and drive an additional 40 feet.

The examining engineer recommends the project and believes the costs, as submitted by the applicants, are ample but not excessive.

We concur in this recommendation.

W. H. King
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE

7-17-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
February 13, 1953

Memorandum

To: Executive Officer, Field Team, Region IV

From: Chief, Mineral Resources Branch, Mining Division, Region IV

Subject: DMEA #713 (lead-zinc), Jean mine, Clear Creek County, Colorado, E. F. Klum and E. E. Houston, applicants - Engineering report

Please find enclosed the original and eight copies of the "Summary, Conclusions, and Recommendations", by R. L. Belmar and D. H. Maclaren, and of Belmar's engineering report on the subject docket.

Belmar concludes that the ore accessible for examination in the Upper tunnel and a winze below it warrants the small loan necessary to reopen the portal to gain entrance to and examine the Lower tunnel. This phase he estimates will cost approximately $1,800.00. If showings are encouraging when this work is completed, drifting on the vein or other exploration as recommended by the Region IV Field Team representatives will be authorized up to $1,000.00. He recommends a short-form contract on a unit-cost basis for a total of $2,800.00, Government participation--$1,400.00, with the limitations stated.

I concur with his conclusions and recommendations.

The brochure provided by the Region IV Field Team with instructions to make an examination is enclosed.

W. M. Traver

W. M. Traver

enclosures

WMT/mch

cc: 8
DMEA #713
DMEA Chron.

Reviewed by
DMEA OPERATING COMMITTEE

7-17-53
(date)

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

200 New Customhouse
Denver 2, Colorado

November 7, 1952

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2713, Jean Mine, Clear Creek County, Colorado.

Attached are 8 copies of the geological report by D. R. MacLaren covering DMEA Docket 2713, Jean Mine, Clear Creek County, Colorado.

The applicant proposes to reopen, drain, and extend the lower adit of the Jean mine and explore for lead and zinc, at an estimated cost of $2800.

The area has been explored by two tunnels, about 27 feet apart vertically. The upper tunnel is 50 feet long. It followed a barren sheeted zone for 30 feet, and a sulfide stringer in the remaining 20 feet. Locally, the stringer widens to about 18 inches of massive sulfides, mostly galena, sphalerite, and pyrite. It is stoped for about 12 feet and a small stope has holed through from below. A raise that connects with the stope from below is partly filled with water, and this access to the lower tunnel is thus cut off.

The portal of the lower tunnel is caved, and the tunnel is inaccessible. From the meager evidence available, MacLaren concludes that the possibility of discovering small bodies of lead-zinc ore justifies opening the lower tunnel for further examination. He, therefore, recommends that the loan be approved with the provision that, after the tunnel has been opened, an examination of it be made to determine the most practical exploration program.

I concur in this recommendation.

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

Reviewed by
DMEA OPERATING COMMITTEE
7-17-58
(date)

Enclosures (8)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 2713, Robert F. Blum and R. E. Houston

Jean mine

Clear Creek County, Colorado

Lead-Zinc

R. L. Bolmer, Mining Engineer
Bureau of Mines

D. R. MacLaren, Geologist
Geological Survey

February 13, 1953

Reviewed by
DMEA OPERATING COMMITTEE
7-17-53
(date)

DMEA 2713

ROBERT F. BLUM AND R. E. HOUSTON
JEAN MINE
CLEAR CREEK COUNTY, COLORADO

Summary, Conclusions, and Recommendations

By R. L. Bolmer
Mining Engineer
Bureau of Mines

and

D. R. MacLaren
Geologist
Geological Survey

DMEA 2713

ROBERT F. BLUM AND R. E. HOUSTON
JEAN MINE
CLEAR CREEK COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

R. L. Bolmer and D. R. MacLaren

An application for aid under the Defense Production Act of 1950 to explore the Jean mine, Clear Creek County, Colo., for lead and zinc was submitted by R. F. Blum and R. E. Houston. The exploration program proposed by the mine owners involved reopening, draining, and extending by 40 feet the Lower tunnel of the mine at an estimated cost of $2,800.00 (Government participation--$1,400.00). The application, DMEA 2713, was referred to the Bureau of Mines and the Geological Survey for field examination, and the property was examined September 30, 1952.

During the examination massive sulfide ore up to 10 inches in width was observed in the Upper tunnel and through a depth of 30 feet in a winze below that level. The Lower tunnel, caved at the portal and flooded, was not accessible for examination. It was concluded that the ore exposed, although of limited extent, was of sufficient merit to justify the opening of the Lower tunnel to permit further examination of the deposit and reappraisal of the latter phase of the proposed exploration.

The opening and rehabilitation of the Lower tunnel for approximately 60 feet from the portal at a unit cost not to exceed $30.00 per foot is recommended. A total of 40 feet of either drifting, crosscutting, or raising at a unit cost of $25.00 per foot as a later

phase is tentatively recommended. The performance of this phase of the project, however, is to be dependent upon recommendations by Region IV Field Team representatives after the Lower tunnel has been made accessible for examination.

JEAN MINE

CLEAR CREEK COUNTY, COLORADO

OMEA DOCKET 2713

Geologic Report

By D. R. MacLaren
U. S. Geological Survey

JEAN MINE
CLEAR CREEK COUNTY, COLORADO

INTRODUCTION

Robert F. Blum and R. E. Houston of Denver, Colorado, have applied to the Defense Minerals Exploration Administration for assistance to explore for lead and zinc in the Jean Mine, Dailey District, Clear Creek County, Colorado. The applicants propose to reopen, drain, and extend the lower adit of the mine at an estimated cost of $2,800, the Government's share to be $1,400.

The Jean mine was examined on September 30, 1952, in company with R. L. Belmer of the U. S. Bureau of Mines, and Robert F. Blum, one of the applicants. The property may be reached by following U. S. Highway 40 about 7½ miles west of the village of Empire and State Highway 286 for 2½ miles west of U. S. 40. From this point 3 miles of poor dirt road, becoming little more than a trail, leads to the property at an elevation of 11,500 feet. The property is accessible for only about four months of the year.

GEOLOGY

The only rock in the area is Silver Plume granite. A sheeted zone about 5 to 8 feet thick strikes from N. 5° E. to N. 5° W., and dips 52°-60° E. Two tunnels 27 feet apart, vertically, have followed the sheeted zone for 50 feet in the upper one and at least 180 feet in the lower (fig. 2). At the time of the examination the lower tunnel was inaccessible through

the portal which had caved. The upper tunnel followed a barren zone for about 30 feet, but in the remaining 20 feet a small sulfide stringer rapidly widened to about 18 inches of massive sulfides, mostly galena, sphalerite, and pyrite. The wall rock, to which the vein is frozen, is silicified and very hard. For about 9 feet back from the breast of the tunnel, a small stope has holed through from below. The stope is 12 feet long and has 18 inches of massive sulfides in the north face. A raise that connects with the stope from below is partly filled with water, so that access to the lower tunnel is cut off from this end.

A sample taken from the vein at the north end of the stope assayed 11.9% Pb, 24.8% Zn, and 6.2 oz. Ag over a width of 9 inches.

In the past small tonnages of lead-zinc-silver ores have been produced from other mines in the area where the ore occurred as either high grade lenses and chimnies, or low grade shoots of pyritic quartz.

CONCLUSIONS AND RECOMMENDATIONS

From the meager evidence available, it is concluded that the possibility of discovering small bodies of lead-zinc ore justifies opening the lower tunnel for further examination.

It is recommended that the application be approved with the provision that, after the tunnel has been opened, no further work be allowed until a reexamination of the tunnel has been made to determine the most practical program for its exploration.

DMEA 2713

ROBERT F. BLUM AND R. E. HOUSTON
JEAN MINE
CLEAR CREEK COUNTY, COLORADO

Engineering Report

By R. L. Bolmer
Mining Engineer
Bureau of Mines

Reviewed by
DMEA OPERATING COMMITTEE

(date)

DMEA 2713

ROBERT F. BLUM AND R. E. HOUSTON
JEAN MINE
CLEAR CREEK COUNTY, COLORADO

CONTENTS

Engineering Report	Page
Introduction	1
Location, topography, and physical features	1
History, production, and ownerships	2
Description and development of the deposit	3
Ore reserves	5
Project proposals, with costs	6
Conclusions	8
Recommendations	9

ILLUSTRATIONS

Figure	Follows Page
1. Claim map, Jean lode, Clear Creek County, Colorado	3
2. Sketch map and sections of Jean mine, Clear Creek County, Colorado	3

DMEA 2713

ROBERT F. BLUM AND R. E. HOUSTON
JEAN MINE
CLEAR CREEK COUNTY, COLORADO

ENGINEERING REPORT

By

R. L. Bolmer

INTRODUCTION

Robert F. Blum and R. E. Houston, both of Denver, Colo., have made application to the Defense Minerals Exploration Administration for assistance to explore the Jean mine, Clear Creek County, Colo., for lead and zinc. The applicants propose to reopen, drain, and extend by 40 feet the Lower tunnel at an estimated total cost of $2,800.00.

The Jean mine was examined September 30, 1952, with D. R. MacLaren, of the Geological Survey, and Robert F. Blum, one of the partners. The engineering report of the Jean mine was prepared from the results of that examination. The relative merits of the mine and the proposed exploration program are discussed in the report and certain conclusions and recommendations have been made for the purpose of aiding the Defense Minerals Exploration Administration in further processing the application.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Jean mine is at an elevation of 11,500 feet in the Colorado Front Range, 44 miles west of Denver. The property lies just east of the Continental Divide in the Dailey or Jones Pass Mining District

of western Clear Creek County. The mine area is above timberline in the Arapaho National Forest and is unsurveyed but would correspond to T. 3 S., R. 76 W., sixth principal meridian.

The property is accessible west from Empire, Colo., via 7-1/2 miles of U. S. Highway 40, 2-1/2 miles of Colorado State Highway 286 (Jones Pass road), and 3 miles of unimproved private road up Butler Gulch, a tributary of the West Fork of Clear Creek. The claim lies within Butler Basin, the glacial cirque occurring at the head of Butler Gulch. Heavy snowfall and severe winter weather conditions at the elevation of the mine permit only summertime operations. The 3-mile private road is generally open to travel late in June and remains open into October.

HISTORY, PRODUCTION, AND OWNERSHIP

The past history of the Jean mine is vague and production from the property, if any, is not recorded under the present name. Early day shipments of high-grade galena ore (75 percent lead) are reported.

The recorded output of the Dailey district is small. The Bobtail and Ready Cash mines west of the Continental Divide have had a small production of lead-zinc-silver ores, as have the Scott tunnel, the Doctor mine, and the Puzzler and Scotia veins east of the Continental Divide. The Urad molybdenum mine has contributed most of the metal output of the district. Several mines have been described by Lovering and Goddard.[1/]

1/ Lovering, T. S., and Goddard, E. N., Geology and Ore Deposits of the Front Range, Colorado: U. S. Geol. Survey Prof. Paper 223.

For the most part, lead-zinc ore bodies in the area have been high grade but of small extent. The low precious metal and the high zinc content of the ores may have discouraged more extensive early day exploration. The isolation, short season, and difficulties of operating at high altitudes all have tended to discourage more recent exploration and development.

Donald Houston, a brother of the applicant, formerly leased and later (1943) relocated the property. His operation was confined to spasmodic rehabilitation and exploration. He did examine the complete mine workings when they were accessible and reported ore worth $30,000 to $40,000 in sight. The brother died and the applicants relocated the Jean claim (fig. 1) in July 1952. The new location is recorded in the Office of the County Recorder, Georgetown, Clear Creek County, Colo. The applicants, besides constructing the 3-mile access road to the property, excavated a new discovery trench on the Jean vein. Proper location notices were in evidence on the property during the inspection. The relocation of the property by the applicants appears valid.

DESCRIPTION AND DEVELOPMENT OF THE DEPOSIT

A steeply dipping, northerly trending shear zone in granite is exposed in the Jean mine (fig. 2). The zone, as opened along the Discovery tunnel, is tight, showing only minor evidence of sulfide mineralization; the possibility exists, however, that the tunnel was driven in either the hanging or footwall of the zone and missed the high-grade sulfides in evidence on the lower levels.

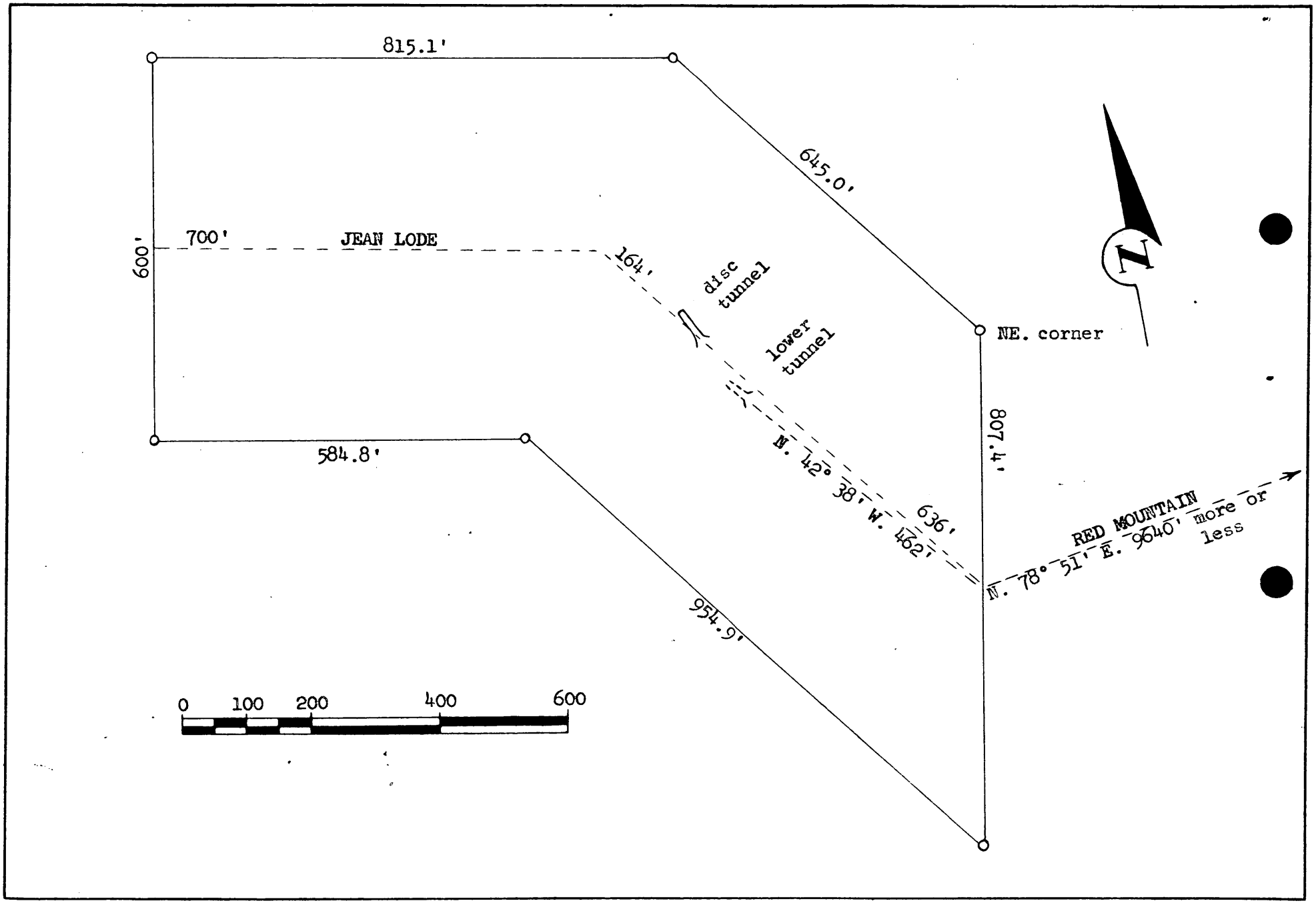


Figure 1 - Claim map, Jean lode, Clear Creek County, Colorado - DMEA 2713

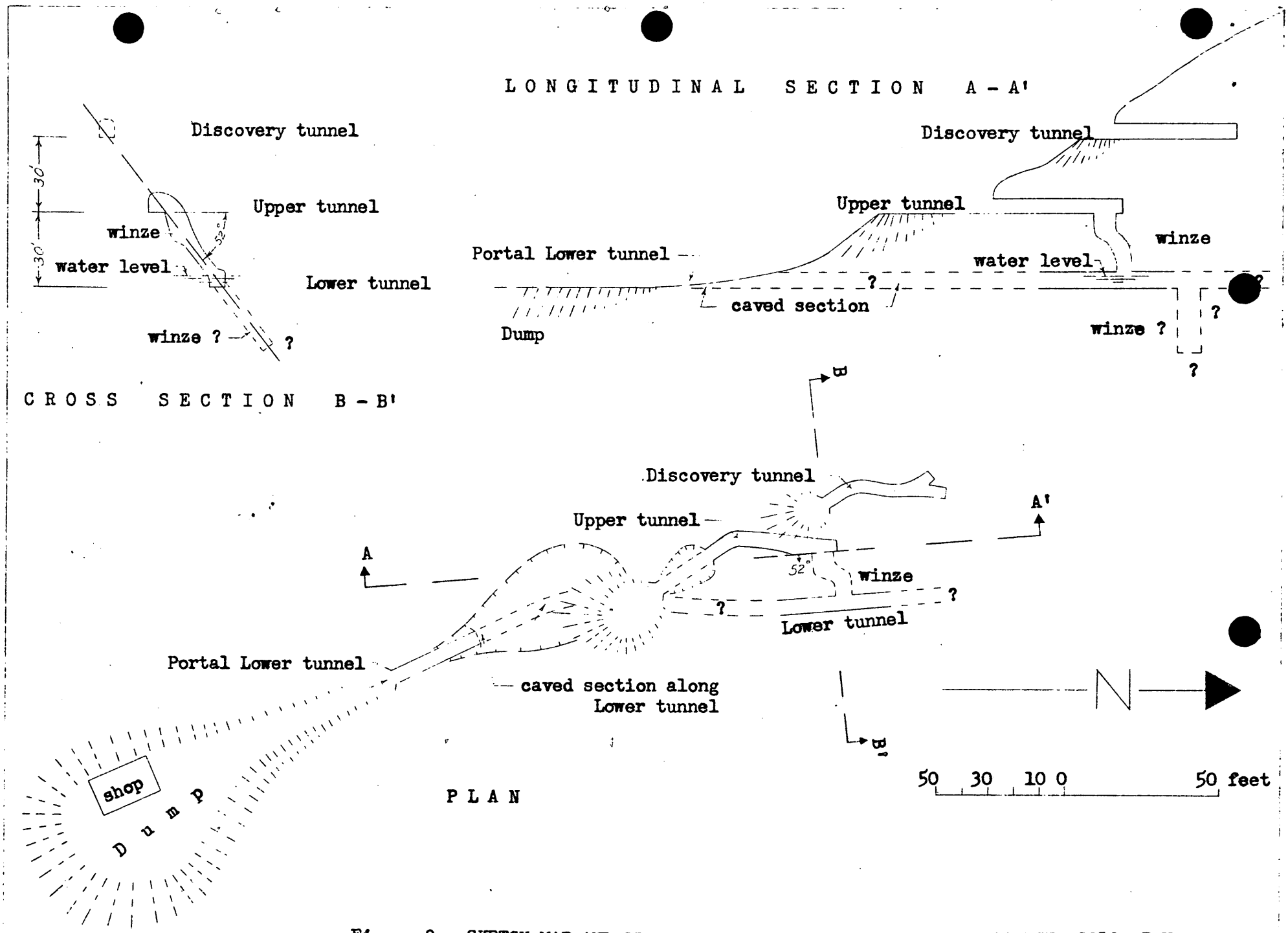


Figure 2.- SKETCH MAP AND SECTIONS OF JEAN MINE, CLEAR CREEK COUNTY, COLO. DMEA 2713

The Upper tunnel is driven on the structure 30 feet below the Discovery tunnel. Thirty feet from the portal, the Upper tunnel swings into the hanging wall of the zone and exposes high-grade sulfide mineralization. The mineralization (galena, sphalerite, and pyrite) rapidly widens to 10 inches of massive sulfide in the breast of the tunnel. The wall rock bordering the sulfides is silicified and, in sections, contains considerable pyrite with minor galena and sphalerite. The walls were not sampled but some milling-grade ore also would be broken during mining of the high-grade lense.

A winze from near the breast of the Upper tunnel connects with the Lower tunnel 30 feet below. Eight to 10 inches of massive sulfides are exposed in the north side of the winze (the sulfide width is slightly less on the south side) for its full depth. A sample taken across 10 inches of massive sulfide exposed on the north side of the winze assayed 6.2 ounces silver per ton, 11.9 percent lead, and 24.8 percent zinc.

The portal of the Lower tunnel is caved and the water level as observed from the winze was at the back of the tunnel. The Lower tunnel was not accessible but its extent was assumed partly from information supplied by the applicants and partly from an appraisal of the size of the dump.

The dump of the Lower tunnel is several times the size of the dumps of either the Discovery or Upper tunnels. Much of the lower dump material is massive sulfides, predominantly a black sphalerite or marmatite but containing some coarsely crystalline galena. The

ore body may be predominantly zinc sulfide; it is possible, however, that the early operators cobbed the higher grade galena from the ore and discarded the nonmarketable zinc sulfides. It is concluded that the Lower tunnel is more extensive than either of the higher levels and was driven for at least part of its length on the massive sulfide ore shoot exposed in the Upper tunnel and winze. A shallow winze is reported to have been sunk from the Lower tunnel, but its location is unknown.

The wall rock and the sulfides are hard and strong and the openings in the upper workings have stood well for years without support. The Lower tunnel portal, driven close to the surface in broken, near-surface rock and slide material, has caved. That portion of the tunnel in solid rock is covered with slide rock which serves as a reservoir and channel for surface runoff. The rapid melting of snowbanks along the divide continues into late summer and the mine is expected to make more than the average amount of water during the operating season.

ORE RESERVES

Sulfide ore approximating a width and grade of the previously mentioned sample is indicated between the Upper and Lower tunnel levels. The ore as observed in the breast of the Upper tunnel and in the winze was widening toward the north. The continuation of the ore for short distances above and below the two tunnel levels is inferred. Ore shoots in the district are described as small, lenticular, and chimney-like. Only a moderate horizontal extension toward the north is expected for the exposed ore; the occurrence

of similar small ore shoots north along the shear zone, however, is a possibility. Actual tonnage estimates are impossible.

At present market prices (Jan. 1953), the sulfide ore is worth approximately $103.00 per ton. In mining, the grade will be reduced one-half or one-third. The massive sulfides probably will be sorted from the low-grade wall rock and shipments with a value approximating $100.00 per ton can be made. The ore may require milling but should be commercial even under difficult mining conditions.

PROJECT PROPOSALS, WITH COSTS

The applicants propose to clean out and retimber for 60 feet the caved portal of the Lower tunnel and to drift 40 feet from the tunnel face if favorable locations are found to exist. The applicants estimate the cost of opening the portal at $30.00 per foot.

The portal of the Lower tunnel was started in alluvial material at the foot of the rather steep slope of the glacial basin. Its first section was an open trench. As the depth of overburden increased, the maintenance of an open trench was impractical and the tunnel was driven underground. Undoubtedly, close timbering was necessary until solid bed rock was reached. It is the timbered section of the tunnel portal that has caved. The caved section may be somewhat longer than estimated. The first few feet of rehabilitation will involve merely the mucking out of the trench. Beyond that point, however, timber sets will be needed and it is possible that spiling will be necessary. Close lagging of the sets probably will be required.

The applicants have indicated that they will perform all work themselves. Rehabilitation will be by hand; machinery, other than a

mine car and small tools, will not be required. The applicants indicated that they would complete the work at their own expense should the rehabilitation exceed the estimated 60 feet. If the work exceeds 60 feet, the first and easier sections of the portal probably would not be included in the distance claimed at the unit price. The estimate of $30.00 per foot for this work is considered reasonable. The actual conditions or the unusual difficulties which may be encountered are unknown. Similar rehabilitation work under Defense Minerals Exploration Administration contracts in more accessible locations have cost as much or more per unit.

The 40 feet of drifting proposed by the applicants is dependent upon conditions found to exist when the Lower tunnel is drained and made accessible for inspection. This phase of the project will be dependent upon recommendations by the Region IV Field Team representatives after the workings are made accessible and examined. It is possible that no further work will be recommended or that an equivalent amount of raising, crosscutting, or even sinking may be more desirable.

The unit cost of $25.00 per foot for drifting, as estimated by the applicants, is considered ample but not excessive. Experience with many Defense Minerals Exploration Administration exploration projects in Colorado has shown that actual direct incurred costs for drifting, crosscutting, and raising under similar normal conditions have averaged between $25.00 and $35.00 per foot of advance. Such costs, based on actual current operations, are more accurate than any estimates that could be made. The cost estimate made by the

applicants, $25.00 per foot for 40 feet of drifting, therefore, is accepted. The applicants will perform the required labor and provide the necessary mining equipment and operating materials and supplies for the $25.00 unit price.

Summary of Project Costs

60 feet rehabilitation of Lower tunnel at $30.00 per foot	$1,800.00
40 feet drifting, crosscutting, or raising at $25.00 per foot	1,000.00
Total estimated cost of project	$2,800.00
Government participation (lead-zinc, 50 percent)	$1,400.00

CONCLUSIONS

The exposure of ore in that portion of the Jean mine available for examination admittedly is limited. The exposure, however, is of sufficient width and of high enough grade to be commercial. The possibility of discovering small but high-grade lead-zinc ore bodies justifies the small expenditure necessary to open the Lower tunnel for further and more thorough examination.

The applicants' proposal is technically feasible and should not involve unusual difficulties. Neither the work proposed nor the costs estimated are considered excessive. The applicants have indicated that they possess the necessary funds to finance half the cost of the project. It is believed they are sincere in their proposal. Both possess the necessary experience, knowledge, and business ability to carry out efficiently a mining project such as has been proposed.

RECOMMENDATIONS

It is recommended that a short-form or unit-cost exploration project contract be entered into with the applicants for the performance of the following work at the Jean mine:

(1) Open and rehabilitate the caved portal section of the Lower tunnel (estimated as 60 feet) at a unit cost of $30.00 per foot.

(2) Drift, crosscut, or raise a total of 40 feet from the Lower tunnel level at a unit cost of $25.00 per foot, said exploration to be dependent upon recommendations by the Defense Minerals Exploration Administration representatives after the Lower tunnel has been drained and made accessible for examination.

amh