RFC, New Cumberland
Mining Division
Region IV

December 4, 1951

Memorandum

To: DMA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMA Docket 249, M. J. Kralicki, applicant; Orphan Boy Lead-Zinc Mine, Park County, Colorado

The application of the subject docket was for an exploration loan of $25,000.

The proposed program of exploration consists of rehabilitation of equipment, buildings, and 850 feet of the Orphan Boy adit, track and ditch, this to be followed by extending the Orphan Boy adit 150 feet, raising on fissures and drifting 100 feet at the Peerless shale contact and the Wilkerson quartzite contact.

The Orphan Boy ores occur as irregular replacement bodies of sphalerite-galena-chalcopyrite and pyrite. There are not any minable reserves at present, but the geological probability of discovery is considered good.

The estimated cost of the proposed work is too low, and a revised estimate at a total cost of $31,000 is submitted by the examining engineer with the approval of the applicant.

The examining engineer recommends approval of this loan, with which we concur. An exploration project contract will be processed by this office.

Paul T. Allsman

Paul T. Allsman

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Mining Division
Denver, Colo.
BUREAU OF MINES
Denver, Colorado

Building 20
Denver Federal Center
Denver 14, Colorado
November 29, 1951

Memorandum

To: Chief, Mining Division, Region IV

From: Chief, Colorado Branch, Mining Division

Subject: DMA 249, The Orphan Boy Mine, Park County, Colorado

Please find enclosed the original and seven copies of the "Summary, Conclusions, and Recommendations" and "Engineering Report" on the above docket by C. M. Harrer. As indicated in the review, the application was approved geologically in Washington and a geological examination was not requested. C. S. Robinson, of the United States Geological Survey, accompanied Harrer on the trip but did not participate in either the examination or the report.

The review refers to War Minerals Report 194, quoting a statement that the Orphan Boy mine contains important deposits of zinc and lead. Actual production from 1946-50 totalled 1,136 tons of good grade, sorted base-metal ore and there is, possibly, some mill ore left, but the ore developed and mined could hardly be called important.

Harrer's report originally suggested a program to be accomplished by three alternate methods: (1) operating two headings on a two-shift basis, costing $31,000.00 to complete in 90 working days; (2) operating two headings on a one-shift basis, costing $37,000.00 to complete in 180 working days; and (3) operating one heading one shift daily, costing $40,000.00 to complete in 255 working days. All were apparently agreeable to the applicant. I saw no need for straddling the fence and eliminated all but the first method which required only a slight revision. The report as submitted recommends a project costing $31,000.00, comprising rehabilitation of surface structures and the main Orphan Boy adit, repairing 93 feet of the Evening Star raise and advancing it 175 feet to the Pearlness shale, extending the main adit 150 feet to the Honeycomb Spur fissure, raising 180 feet on the fissure, and exploring the favorable contacts reached by both raises with 100 feet of drifting--a rather elaborate project.

Maps were not prepared to accompany the report, but reference to the drawing submitted with the application, titled "Section along trend of main adit level, Orphan Boy Mine", reveals that it

would be possible to accomplish the same exploration as Harrer recommends with from 1,000 to 1,200 feet of diamond drill hole costing from $7,000.00 to $8,500.00. Of course, when you have finished, you have only a one-inch hole in the formations, but, if you fail to make a discovery, you have saved from $22,500.00 to $24,000.00. From some slight knowledge of the mine, I am inclined to think possibly we have missed the boat on this proposal.

The brochure and review submitted with the instructions for examination by the Region IV Field Team are returned also.

W. M. Traver, Jr.

W. M. Traver, Jr.

enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
OSCAR L. CHAPMAN, SECRETARY

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM

DMA-249, The Orphan Boy Mine

Park County, Colorado

Lead-Zinc

C. M. Harrer, Mining Engineer
Bureau of Mines

November 28, 1951

THE ORPHAN BOY MINE
PARK COUNTY, COLORADO

Summary, Conclusions, and Recommendations

By C. M. Harvey
Mining Engineer
Bureau of Mines

THE ORPHAN BOY MINE
PARK COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By C. M. Harrer

The Orphan Boy mine, located in secs. 9 and 10, T. 9 S., R. 78 W., Park County, Colo., has been a substantial producer of mill-grade zinc-lead-copper ore, with varying amounts of gold and silver.

M. J. Kroliski, of Denver, Colo., lessee, has requested an exploration loan of $25,000.00 to rehabilitate and explore promising productive horizons in the Orphan Boy mine for replacement bodies of sphalerite-galena-chalcopyrite ore containing gold and silver.

The applicant's estimate of $25,000.00 is believed too low to accomplish his program. It is estimated that it will require $31,000.00 to accomplish his proposed exploration, operating two headings on a 2-shift basis for 90 working days.

Part of the contingency fund should be spent for competent geologic service and mapping.

The revised exploration loan for $31,000.00 on the Orphan Boy mine is recommended for approval.

THE ORPHAN BOY MINE
PARK COUNTY, COLORADO

Engineering Report

By C. M. Harrar
Mining Engineer
Bureau of Mines

THE ORPHAN BOY MINE
PARK COUNTY, COLORADO

CONTENTS

Engineering Report — Page

Introduction 1
Acknowledgments 1
Location, topography, and physical features 2
History and production 2
Ownership and extent 3
Description of the deposits 3
Minable ore reserves 4
Present status 4
Exploration and development 4
Mining and milling equipment 5
Project proposals 5
Estimated project costs 6
Production plan 9
Proposed financing 9
Conclusions 9
Recommendations 10

ILLUSTRATIONS

Figure — Follows Page

1. Location map, Orphan Boy Mine, Park County, Colorado ... 1

THE ORPHAN BOY MINE
PARK COUNTY, COLORADO

ENGINEERING REPORT

By

C. M. Harper

INTRODUCTION

Examination of the Orphan Boy mine near Park City, Colo. (fig. 1), was made at the request of M. J. Krulicki, lessee, in connection with a proposed exploration loan of $25,000.00 under the Defense Production Act of 1950, Defense Minerals Administration Ticket 249, to explore this inoperative mine for replacement bodies of zinc-lead-copper-gold-silver ore at favorable horizons.

The property was examined by the author and C. S. Robinson, of the U. S. Geological Survey, on October 22, 1951. A. E. Moynahan, consulting mining engineer-lessee, and R. L. Robeson, former operator, acted as guides.

ACKNOWLEDGMENTS

R. L. Robeson, local miner and former lessee residing in Alma, Colo., conducted the examining team through all accessible mine workings. A. E. Moynahan, consulting mining engineer representing the owner, Kennebec Mining Company, furnished data on the property. Production statistics were furnished by the Economics Division of Region IV, Bureau of Mines.

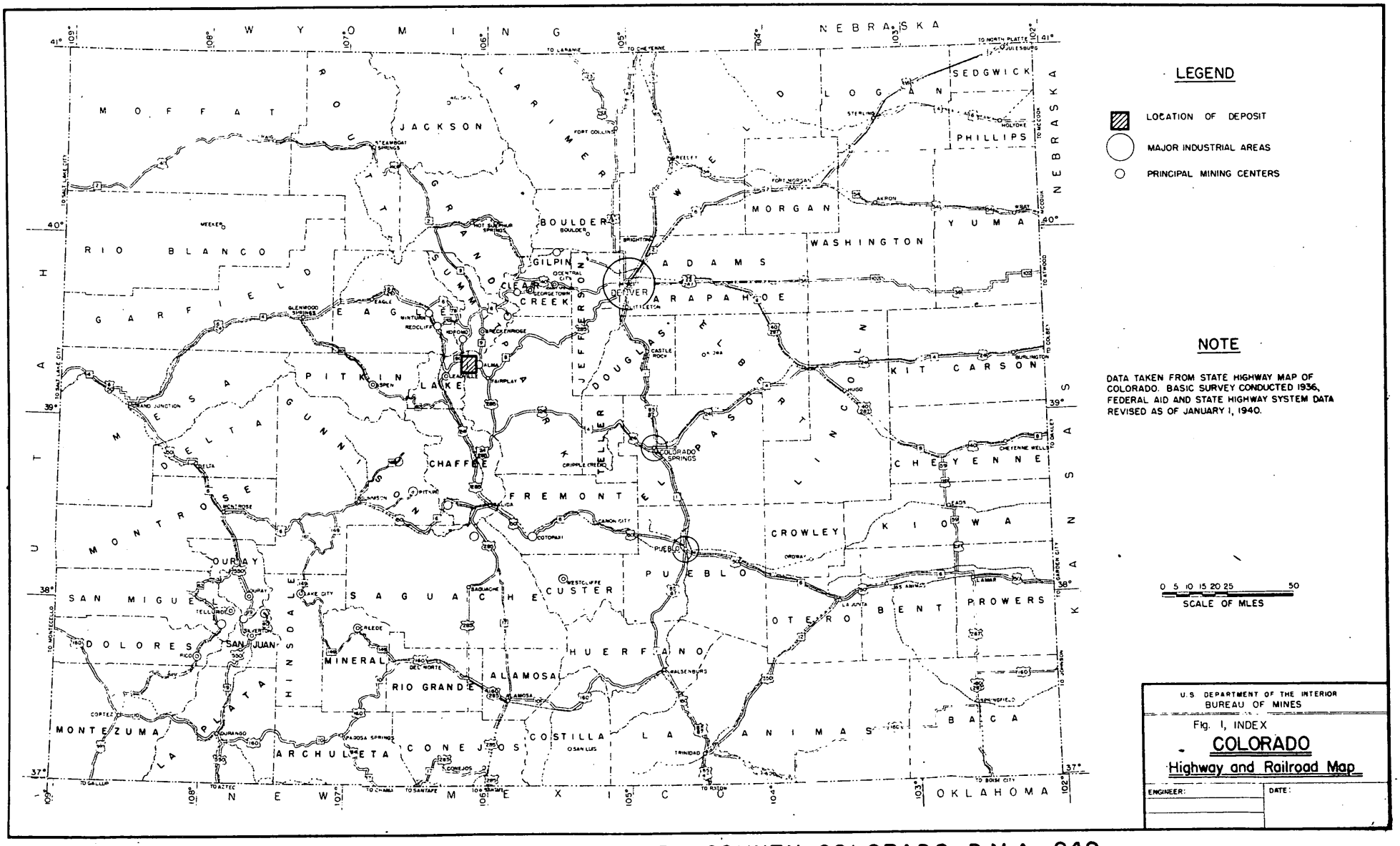


FIG. 1-ORPHAN BOY MINE, PARK COUNTY COLORADO D.M.A.-249

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The property is located in secs. 9 and 10, T. 9 S., R. 78 W., Alma Mining District, Park County, Colo., at an altitude of 10,800 feet. The Orphan Boy adit is on the lower southeast slope of Loveland Mountain, about 1 mile west of Park City and 2 1/4 miles west of Alma, Colo., on a rough ore haul road. Terrain is steep and rugged with pine and aspen trees on the slopes. Ample water is available in mine workings and nearby Cooper Creek. Communications, supply, and transportation facilities are readily available through nearby Alma, Colo., State Highway 9, and U. S. Highway 285. Alma is about 100 miles southwest of Denver and 76 miles by road from Leadville where the milling and smelting facilities of the American Smelting and Refining Company are located. Buena Vista is the nearest point on the Denver and Rio Grande Western Railroad, 41 miles to the south.

HISTORY AND PRODUCTION

A large group of patented mining claims was consolidated in 1890 in the holding company, Kennebec Mining Company. During 1901-06 the property was operated as the Orphan Boy Consolidated Mining Company, of Alma, and from 1907 to 1910 was idle. During 1911-12 it operated as the Success Mining Company; 1913-19 it was operated by Carl Mehr, of Alma; 1920-41 it reverted to Kennebec Mining Company. In 1942-44 the property was operated by the London Extension Mining Company under a Reconstruction Finance Corporation loan which was repaid only in part by salvage of equipment. The property has been under lease to M. J. Krolinski, of Denver, since May 5, 1945.

In the period 1901 to 1950, the property was operated intermittently and produced about 9,300 tons of ore with a recovered average assay of

0.25 ounce gold and 6.3 ounces silver per ton, 0.2 percent copper, 0.9 percent lead, and 5.0 percent zinc.

During the last operating period, 1946-50, the property produced 1,136 tons of ore which averaged 0.27 ounce gold and 3.7 ounces silver per ton, 0.6 percent copper, 3.1 percent lead, and 19.7 percent zinc. This production has been from the so-called "zinc stope" area along the Evening Star fissure. Ore has been shipped to various mills and smelters as gold-silver-pyrite ore, gold-silver-chalcopyrite-pyrite ore, galena-pyrite-gold-silver ore, and galena-sphalerite-pyrite-gold-silver ore.

OWNERSHIP AND EXTENT

The loan applicant, M. J. Krolicki, has a ten-year lease with option to purchase for $75,000.00, dated May 5, 1945, with date of expiration June 25, 1955. The lease option with Kennebec Mining Company, A. E. Moynahan, president, covers twenty patented mining claims having a total area of 113.6 acres which are listed in the application.

DESCRIPTION OF THE DEPOSITS

Ore occurs as irregular replacement bodies of sphalerite-galena-chalcopyrite and pyrite, with varying amounts of gold and silver, along nearly vertical faults and fractures in Cambrian quartzites which have been intruded by sheets and sills of quartz monzonite porphyry.

Walls are generally hard and firm, requiring little support. Very little gouge is found along faults. Fissures other than the Waterscurve fault give up very little water and mine workings are slightly damp.

Replacement ore bodies already mined on various structures are in very hard Cambrian quartzite and this condition will continue to the prospect horizon, the Peerless shale.

Ore occurring along the fissures varies in thickness from 18 inches to 5 feet. It has been mined selectively to maintain a shipping grade, and narrow or low-grade zones have not been explored to any appreciable extent.

MINABLE ORE RESERVES

At present, extensions of the zinc stope ore body along the Evening Star fault, above present mine workings and to the southwest, are potential sources of sphalerite-galena-chalcopyrite ore which probably cannot be mined profitably under present conditions. The ore from the zinc stope was transferred four times to reach the Orphan Boy adit level and its portal.

No appreciable reserves of ore which can be mined profitably are presently exposed.

PRESENT STATUS

Exploration and Development

The Orphan Boy adit is driven 820 feet northwesterly from its portal. A 25-foot stub drift trending S. 70° W., and 74 feet from the end of the Orphan Boy adit is the location of a 93-foot raise to the Evening Star vein. The top of this raise will be advanced along the Evening Star fissure to intersect the Peerless shale. All underground development pertinent to the proposed exploration program was accessible to examination but requires rehabilitation. Operations during 1946-50, in the zinc stope on the Evening Star structure were accessible with difficulty. The mine is presently inoperative and requires rehabilitation.

Mining and Milling Equipment

There is no mining or milling equipment on the property.

PROJECT PROPOSAL

M. J. Kreliski, lease applicant, proposes to explore new horizons in the Orphan Boy mine for zinc-lead ore deposits with included copper-gold and silver by drifting and raising from the Orphan Boy adit level through pre-Cambrian granite-gneiss, the Cambrian quartzites, and the Peerless shale, at a cost of $25,000.00, to be expended as follows:

(1) Rehabilitate compressor and shop buildings.

(2) Rehabilitate 850 feet of Orphan Boy adit track and ditch.

(3) Recondition compressed air lines and extend them.

(4) Rehabilitate the Evening Star raise to its top (93 feet) and prepare the raise for driving to the Peerless shale.

(5) Advance the Evening Star raise from the present top 175 feet to the Peerless shale, and extend the Orphan Boy adit 150 feet, through the Honeycomb Spur fissure, simultaneously.

(6) Drive a raise at the end of the Orphan Boy adit extension on the Honeycomb Spur fissure 180 feet through the pre-Cambrian granite-gneiss and Cambrian quartzite.

(7) Explore the Peerless shale contact and the Cambrian quartzite contact which are the objectives of items 5 and 6, with a total of 100 feet of drifting.

ESTIMATED PROJECT COSTS

A. Equipment to be rented

Costs based on "Rental Rates for Construction Equipment, 1950 edition, Associated Equipment Distributors of Colorado"

Item	Monthly Rental
1 - 315 c.f.m. Gardner Denver air compressor, portable, skid mount	$ 475.00
2 - Pneumatic drifters, columns, hoses, etc.	200.00
2 - Pneumatic stopers	133.50
3 - Mine cars, 1-ton	60.00
1 - Mule	40.00
1 - Air hoist-tugger	73.00
2 - Drilling water tanks	10.00
1 - Eimco 12B loader (for one month)	250.00
1 - Portable Joy L-21 blower for raise (Air motor)	70.00
500 feet of fan tubing	43.00
Total monthly rental	$1,354.50
Total daily rental	$45.15

B. Supervision and Labor

The project is expected to be carried on in the Orphan Boy adit and the Evening Star raise simultaneously on a 2-shift basis.

	Per day
1 - Superintendent who will work days directing the project, keeping accounts, and engineering work at $450.00 per month; on a 25-working-day month	$ 18.00
1 - Foreman-compressor man, who will work nights at $1.65 per hour, with overtime on Saturdays	14.30
4 - Miners at $1.50 per hour; 6-day week, including overtime on Saturdays	52.00
4 - Miners' helpers at $1.35 per hour; 6-day week, including overtime	46.80
2 - Trammers at $1.35 per hour; 6-day week, including overtime	23.40
1 - Compressor man-mechanic at $1.50 per hour; 6-day week, including overtime	13.00
Total supervision and labor cost per day	$167.50

C. Supplies

400 feet of mine track, complete, and including some replacement at $3.86 per foot	$1,544.00
168 cases of dynamite at $11.88 per case	1,995.84
2,400 blasting caps at $26.15 per 100	627.60
16,000 feet of fuse at $13.25 per 1000	212.00
8 sets of drill steel	200.00
50 tungsten carbide bits at $15.00	750.00
Small tools	100.00
Timber and lumber, etc.	3,000.00
700 feet of 2-inch air line at $.32 per foot	224.00
Total cost of supplies	8,653.44

Estimated cost of project

Estimated cost of the project on a 2-shift basis, with two headings operating simultaneously wherever possible, is as follows:

Labor (2-shift basis, 90 working days)

(1)	Labor to rehabilitate compressor room and shop. Buildings now in disrepair. Two days at $167.50 per day	$ 335.00
(2)	Labor to rehabilitate 850 feet of Orphan Boy adit track, plank walk, and ditch. Whole crew. Three days at $167.50 per day	502.50
(3)	Labor to recondition and extend compressed air lines. Whole crew. Two days at $167.50 per day	335.00
(4)	Labor to rehabilitate 93 feet of the Evening Star raise preparatory to start raising to the Peerless shale. *Five days at $118.10 per day	590.50

(5) Labor to extend the Evening Star raise 175 feet to the Fearless shale and advance the Orphan Boy adit 150 feet, simultaneously on 2 shifts. Thirty-five days at $167.50 per day	$5,862.50	
(6) Labor to raise on the Honeycomb Spur fissure 180 feet. *Thirty-five days at $118.10 per day	4,133.50	
(7) Labor to drift a composite total of 100 feet on contact objectives. Thirteen days at $167.50 per day (This will be carried out in part simultaneously with item 5.)	2,177.50	
Total labor costs		$13,936.50

*Excludes 2 miners and 2 miners' helpers per day from $167.50 estimate.

Rental		
1 month at $1,354.50	$1,354.50	
3 months at $1,104.50 (no Eimco loader)	3,313.50	
Total rental		4,668.00
Supplies		8,653.44
Contingencies		
(Fuel, labor taxes, possible additional rental on a second air hoist and fan for raises, delays, truck service, etc.)		3,742.06
Total cost of project		$31,000.00

Total time required to complete the project is estimated at 90 working days on a 2-shift basis, operating two headings simultaneously wherever possible.

PRODUCTION PLAN

M. J. Krolicki, lessee of the Orphan Boy mine, plans to start mining operations if commercial shipping-grade ores result from the exploration. These future operations will be governed entirely by the outcome of the exploration program.

PROPOSED FINANCING

M. J. Krolicki, lessee, and A. E. Moynahan, lessor, have indicated their willingness and ability to participate in an exploration program which they estimate will cost $25,000.00, or any other amount estimated to be required by the examining engineer. They understand their share of the total cost will be 50 percent. M. J. Krolicki is related to the lessor, A. E. Moynahan, president of Kennebec Mining Company.

CONCLUSIONS

The Orphan Boy mine has produced over 9,300 tons of mill and smelter grade zinc-lead-copper ores.

Exploration will be directed toward horizons proven productive elsewhere, and should be successful.

The estimate by the applicant, M. J. Krolicki, of the financial requirements is believed too low to complete the entire project as outlined.

It is estimated $31,000.00 will be required to complete the proposed exploration operating on a 2-shift, two-heading basis, for 90 working days. Operations on a two heading, single shift, or a one heading, single shift would show correspondingly higher costs.

Considerable work will be in pre-Cambrian granite-gneiss and hard Cambrian quartzite.

There is no equipment on the property other than track and air line which is in poor condition.

Mine and surface plant are in disrepair and will require rehabilitation.

RECOMMENDATIONS

The application for an exploration loan on the Orphan Boy mine, Defense Minerals Administration Docket 249, is recommended for approval on the amended estimates of $31,000.00.

Part of the contingency item should be spent for competent geologic service and mapping.

224 New Customhouse
Denver 2, Colorado

June 23, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration
Attention: Code 210

From: Field Team, Region IV

Subject: Final Report, DMA Docket 249, (Lead-Zinc) Orphan Boy Mine, Park County, Colorado

Enclosed are three copies of the final report on DMA-249. One copy was forwarded you February 18, with copy of the letter of denial to the applicant.

The field examiner recommended that the application be approved, but a subsequent review by the Field Team indicated that it should be denied.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

HMC:oe W.H.K.

cc: Subject, Chron.
Koschmann (2)

[redacted] New Customhouse
Denver 2, Colorado

February 18, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration, Attention: Code 210

From: Field Team, DMEA, Region IV

Subject: DMA Docket 249, Final Report, M. J. Krolicki, applicant; Orphan Boy Lead-Zinc Mine, Park County, Colorado

The application of M. J. Krolicki, DMA-249, has been denied. The application was formerly approved, but a subsequent review of the information by the field team indicated that it should be denied.

The original and one copy of Form 3b were sent to the Executive Secretary, DMA, on December 4, 1951.

We are enclosing the original and one copy of a revised Form 3b.

We are also enclosing a copy of the final report, and a copy of the letter of denial to the applicant.

for W. H. King
J. E. Hack, Jr.

A. H. Koschmann
A. H. Koschmann

Enclosures

JPS:cc 978

cc: DMA Subject, Chron.
WMTraver
AhKoschmann

Form 3b.

DEFENSE MINERALS ADMINISTRATION

CONTROLLED DOCUMENT
Revised Abstract

DMA Docket No. 249

Change: From		To	
I 1	☐	I 1	☐
I 2	☐	I 2	☐
I 3	☒	I 3	☒
I 4	☐	I 4	☐
I 5	☐	I 5	☐
I 6	☐	I 6	☐
III 1	☒	III 1	☐
III 2	☐	III 2	☒
III 3	☐	III 3	☐
III 4	☐	III 4	☐

Add:

II 7 $ 25,000.00

II 8 $ - - -

II 8a % _____

_____

_____

Initials of person preparing sheet J.P.S.

Date sheet prepared 2-15-52

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

224 New Customhouse
Denver 2, Colorado

February 15, 1952

Mr. M. J. Krolicki
2990 Locust Street
Denver, Colorado

Dear Mr. Krolicki:

Referring to your application for assistance on the Orphan Boy mine, DMA Docket 249.

Your proposal consists essentially of the following; rehabilitation of the Orphan Boy adit, repairing 93 feet of the Evening Star raise and advancing it 175 feet to the Peerless shale, extending the main adit 150 feet to the Honeycomb Spur fissure, raising 180 feet on the fissure, and exploring the favorable contacts reached by both raises with 100 feet of drifting. The estimated cost was $25,000.00.

The favorable contacts can be explored effectively by diamond drilling at considerably less cost. It is suggested that you submit a revised application as we must deny your application in its present form.

J. H. East, Jr.
J. H. East, Jr.
Field Team, Region IV

W.H.K.

for Ogden Tweet
A. H. Koschmann
Field Team, Region IV

JFS:oc

cc: Acting Administrator,
DMEA - Wash.
DMA Sub. Chron.
Koschmann
Traver

224 New Customhouse
Denver 2, Colorado

December 4, 1951

Memorandum

To: Executive Secretary, Defense Minerals Administration

From: DMA Field Team, Region IV

Subject: DMA Docket 249, Final Report, M. J. Kralicki, applicant; Orphan Boy Lead-Zinc Mine, Park County, Colorado

The subject report has been approved by us and an exploration loan of $31,000 is being processed.

Four copies of the report and brochure are being held here until the execution of the exploration project contract.

The original and one copy of DMA Form 3b is attached.

Paul T. Allsman
Paul T. Allsman, Alternate

A. H. Koschmann
A. H. Koschmann

WDM:oc

cc: DMA Subject, Chron.
AHKoschmann

cc: WMTraver w/copy of final report
PTAllsman w/copy of final report
AHKoschmann w/copy of final report
DMA Final Report

[redacted]n 3b.

DEFENSE MINERALS ADMINISTRATION

CONTROLLED DOCUMENT
Revised Abstract

DMA Docket No. 249

Change:	From	To	
	I 1 ☐	I 1 ☐	
	I 2 ☐	I 2 ☐	
	I 3 ☒	I 3 ☒	
	I 4 ☐	I 4 ☐	
	I 5 ☐	I 5 ☐	
	I 6 ☐	I 6 ☐	
	III 1 ☐	III 1 ☒	12/3/51
	III 2 ☐	III 2 ☐	
	III 3 ☐	III 3 ☐	
	III 4 ☒	III 4 ☐	

Add:

II 7 $ 25,000

II 8 $ 31,000

II 8a % 50

Initials of person preparing sheet W.D.M.

Date sheet prepared 12/3/51

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

224 New Customhouse
Denver 2, Colorado

December 4, 1951

Memorandum

To: Executive Secretary, Defense Minerals Administration

From: DMA Field Team, Region IV

Subject: DMA Docket 249, Final Report, M. J. Krolicki, applicant; Orphan Boy Lead-Zinc Mine, Park County, Colorado

The subject report has been approved by us and an exploration loan of $31,000 is being processed.

Your copies of the report and brochure are being held here until the execution of the exploration project contract.

The original and one copy of DMA Form 3b is attached.

J. H. East, Jr.

A. H. Koschmann

cc: WMTraver w/copy of final report
PTAllsman w/copy of final report
AHKoschmann w/copy of final report
DMA Final Report

6935 Richthofen Place
Denver, Colorado
February 25, 1952

MINERALS EXPLORATION
OFFICE
REGION IV
FEB 2 1952
BUREAU OF MINES
DENVER, COLORADO

Mr. H. H. East, Jr.
A. H. Koschman
Field Team Region IV
224 New Custom House
Denver 2, Colorado

Gentlemen;-

Your letter of February 15, 1952, in regard to D.M.A. Docket No. 249 has been received.

I do not believe that diamond drilling is the correct method to use in testing for the productive fissure veins at certain geological horizons. It is too easy to miss the productive contact where the vein is intersected.

When the very hard quartzite that must be drilled in the drilling program that you suggest, I doubt that it would prove to be greatly cheaper than the method stated in my application. In any case I do not wish to resort to diamond drilling.

Thanking you for your kind consideration, I remain,

Most Sincerely yours,

M. J. Krolicki

M. J. Krolicki.

Form 6-95

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

REFERENCE SLIP

REFERRED TO: DATE 2/27/52

(2) Cost

1. ~~King~~ W.H.K.
2.
3. Shaw
4.

FOR:

- ---------- Action
- ---------- Approval
- ---------- Comment
- ---------- Conference
- ---------- Consideration
- ---------- Filing
- ---------- Instructions
- ---------- Investigation
- ---------- Initials
- ---------- Mailing
- ---------- Previous correspondence
- ---------- Recommendation
- ---------- Record of ----------
- ---------- Referring to ----------
- ---------- Reply for signature of ----------
- ---------- Rewriting
- ---------- Signature
- ---------- Suggestions
- ---------- Your information

REMARKS: Letter from M. J. Krolicki, DMA 249---re: our letter of Febr. 15.

Check (X) before the items needing attention.

GPO 16—51162-1

Initials of sender.

WMT/amh

UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF MINES
Mining Division

Date Rec'd.
OCT 31 1951
BUREAU OF MINES
Denver, Colorado

Building 20
Denver Federal Center
Denver 14, Colorado

October 30, 1951

Mr. A. E. Moynahan
704 U. S. National Bank Building
Denver 2, Colorado

REFERENCE: DMA 249, The Orphan Boy Mine, Park County, Colorado; M. J. Krolicki, applicant.

Dear Mr. Moynahan:

Please find enclosed a blue print of a claim map of the Kennebec Mining Company loaned our examining engineer in connection with the above Defense Minerals Administration docket.

Use of this map is appreciated.

WMT

W. M. Traver, Jr., Chief
Colorado Branch, Mining Division

enclosure
cc PTAllsman
DMA 249
DMA Chron.

224 New Customhouse
Mining Division
Region IV

December 4, 1951

Memorandum

To: DMA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMA Docket 249, N. J. Kvalicki, applicant; Orphan Boy Lead-Zinc Mine, Park County, Colorado

The application of the subject docket was for an exploration loan of $25,000.

The proposed program of exploration consists of rehabilitation of equipment, buildings, and 850 feet of the Orphan Boy adit, track and ditch, this to be followed by extending the Orphan Boy adit 150 feet, raising approximately and drifting 100 feet at the Fuerlong shale contact and the Dakotan quartzite contact.

The Orphan Boy ores occur as irregular replacement bodies of sphalerite-galena-chalcopyrite and pyrite. There are not any minable reserves at present, but the geological probability of discovery is considered good.

The estimated cost of the proposed work is too low, and a revised estimate at a total cost of $31,000 is submitted by the examining engineer with the approval of the applicant.

The examining engineer recommends approval of this loan, with which we concur. An exploration project contract will be processed by this office.

Paul T. Allmann

WDM:oc
cc: DMA subject, chron.
AHKoschmann

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

OCT 3 1951

REGIONAL DIRECTOR'S OFFICE
REGION IV
OCT 4 1951
BUREAU OF MINES
DENVER, COLORADO

Mr. J. H. East, Jr.
Executive Officer, DMA Field Team
Region IV
224 New Customhouse
Denver 2, Colorado

Dear Sir:

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

Docket No. 249

Commodity Lead-zinc

Applicant M. J. Krolicki, 2990 Locust Street, Denver, Colorado

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

Very truly yours,

Tom Lyon

Chairman
Coordinating Committee

Lowell B. Moon
For Bureau of Mines

T. P. Thayer
For Geological Survey

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. DMA-249

Commodity Lead, zinc

Total Amount $25,000

Govt. Participation 50%

1. Name and Address of Applicant M. J. Krolicki, 2990 Locust Street, Denver, Colorado

2. Location of Property Orphan Boy Mine, Alma District, Park County, Colorado

3. Mineral or metal Lead-Zinc Is it listed in Section 9 of MO-5? Yes

If not, application will be rejected.

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

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

a) Good Yes, See attached statement

b) Poor

c) None

d) Don't know—needs field examination

e) Is there an alternative and favorable project? No
(If so, attach an explanation)

5. Is the applicant's right to the property clearly stated? Yes
(question 5, 6, 7)*

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

Does the lease have sufficient time to run to cover a future productive period? Yes, expires May 5, 1955

*question numbers are those of MF-103

4. (a) The following reports were reviewed for geological background information: U. S. Bureau of Mines War Minerals Report 194, "Alma District, Park County, Colorado", 1943; and "Geology and Ore Deposits of the Alma District, Park County, Colorado", Colorado Geological Survey Bulletin 3, 1912.

The formations of the Alma District consist of igneous and metamorphic pre-Cambrian rocks; quartzites, shales, and limestones of Paleozoic age; and porphyries of Tertiary age. The sections with the docket show the relationships between the easterly dipping sedimentary rocks and the porphyry intrusives. The formations are cut by nearly vertical fault fissure veins. At places where they cross a contact between quartzite below and a porphyry sheet above, the veins widen out and form replacement deposits in the quartzite. The most important of these replacement veins is known as the "Orphan Boy Contact".

In the past, the Orphan Boy mine was worked primarily for gold and silver values and the lead and zinc ores were left unmined where possible. The applicant has worked the mine for lead and zinc since World War II. In U.S. Bureau of Mines War Minerals Report, 194, 1943, it is stated that the Orphan Boy mine contains important deposits of zinc and lead. (pp. 13, 15. 16). It is reported that the Star vein averages 18 inches in width with an average metal content for this width of 35% zinc, 10% lead, 0.30 oz. gold, and 10 oz. silver. (War Minerals Report, P. 15).

discount

7. Are subordination agreements necessary? Yes MF-202

a) MF-201? _____

b) MF-202 Five copies accompany report

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

a) Available manpower Yes

b) Equipment and supplies Pipe and track, 2 mine cars only equipment on job
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* Yes

d) Water (question 13)* Yes

e) Power (question 13)* Yes

Is a field check needed on any of these points? No

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

_____

Is a field check needed on this point? No

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

a) Is the project adequately described? Yes

If not, are there sufficient data given so that you can describe the project? _____ If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? Yes

_____

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? Yes

If not, what part of it is? _____

_____

_____

_____

Is this part a worthwhile exploration project?_____

d) Are the cost estimates detailed? Yes

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data?_____ If so, attach a draft.

e) Are the cost estimates reasonable? Seem somewhat high

f) Should more information be requested from applicant?_____

g) Is a field examination necessary to complete Exhibit A? No

11. Exhibit B (question 23-d)*

a) Is it applicable? No

b) If so, are sufficient data furnished?_____ If so, attach a draft.

c) Is a field check needed?_____

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

a) Is it applicable? Yes

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

c) Are rents and charges reasonable? No breakdown of items

d) Is a field check needed? No

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

a) Are there sufficient data? Yes

b) Is the schedule adequate for the work proposed? Yes

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

d) Are the proposed wages and salaries reasonable? Yes

e) Is a field check needed? No

14. Exhibit E (question 23-c)*

a) Is it applicable? Yes

b) Sufficient data? No

c) Reasonable?

d) Field check needed? Further information needed

15. In your judgment, can the proposed work be done in the proposed time? Yes, should be completed sooner with proposed number of miners

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.
Recommended geologically, see attached statement.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? No geological examination of this property is required. Information should be obtained on the engineering and cost phases of this docket as indicated in this review and in the attached memorandum by Mr. O. M. Bishop

Attached hereto are:

1 copy of report by A. E. Moynahan
4 letters from M. J. Krolicki dated Dec. 12, 1950 April 26, May 16, June 14, 1951
7 maps and sections of Orphan Boy Mine
1 copy of MF-103
1 copy of lease
1 copy of Form MF-202

Reviewed by: B. Gildersleeve GS-8-13-51
O. M. Bishop B.M. 9-17-51

Date 9-27-51

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

16. The project is recommended geologically on a basis of published reports and unpublished material in the files of the Geological Survey, describing the Orphan Boy Mine and Alma District.

B. Gildersleeve - GS

Docket-DMA-249

In reviewing docket DMA-249 (Orphan Boy Mine) I note proposed 150 feet of drifting and 355 feet of raising is estimated to cost $25,000 or about $49.50 per foot. This cost seems excessive on the bases of the data given, and comparative costs elsewhere.

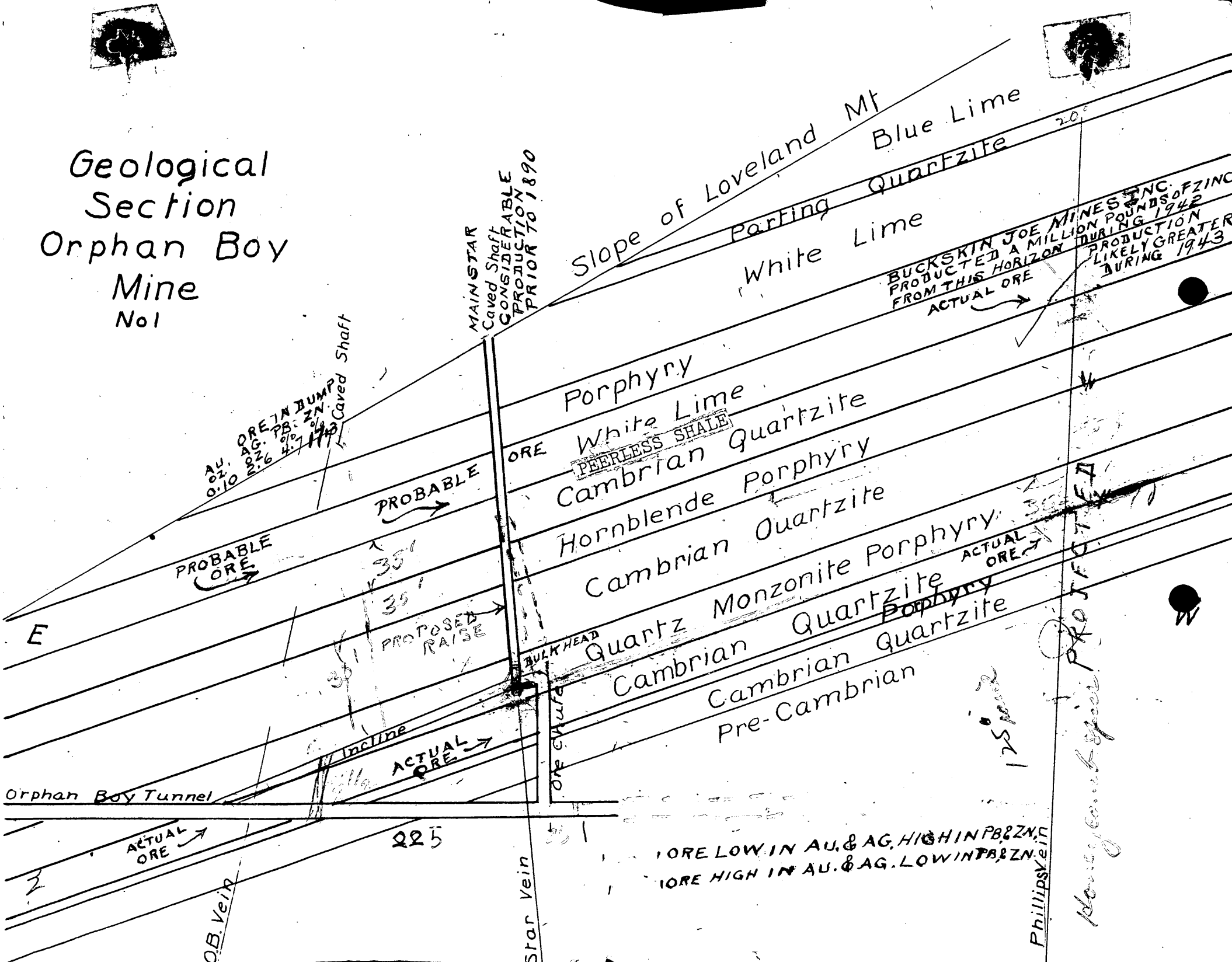
Item 23 (c) should be broken down to show which items need repair and the estimated cost of each repair job.

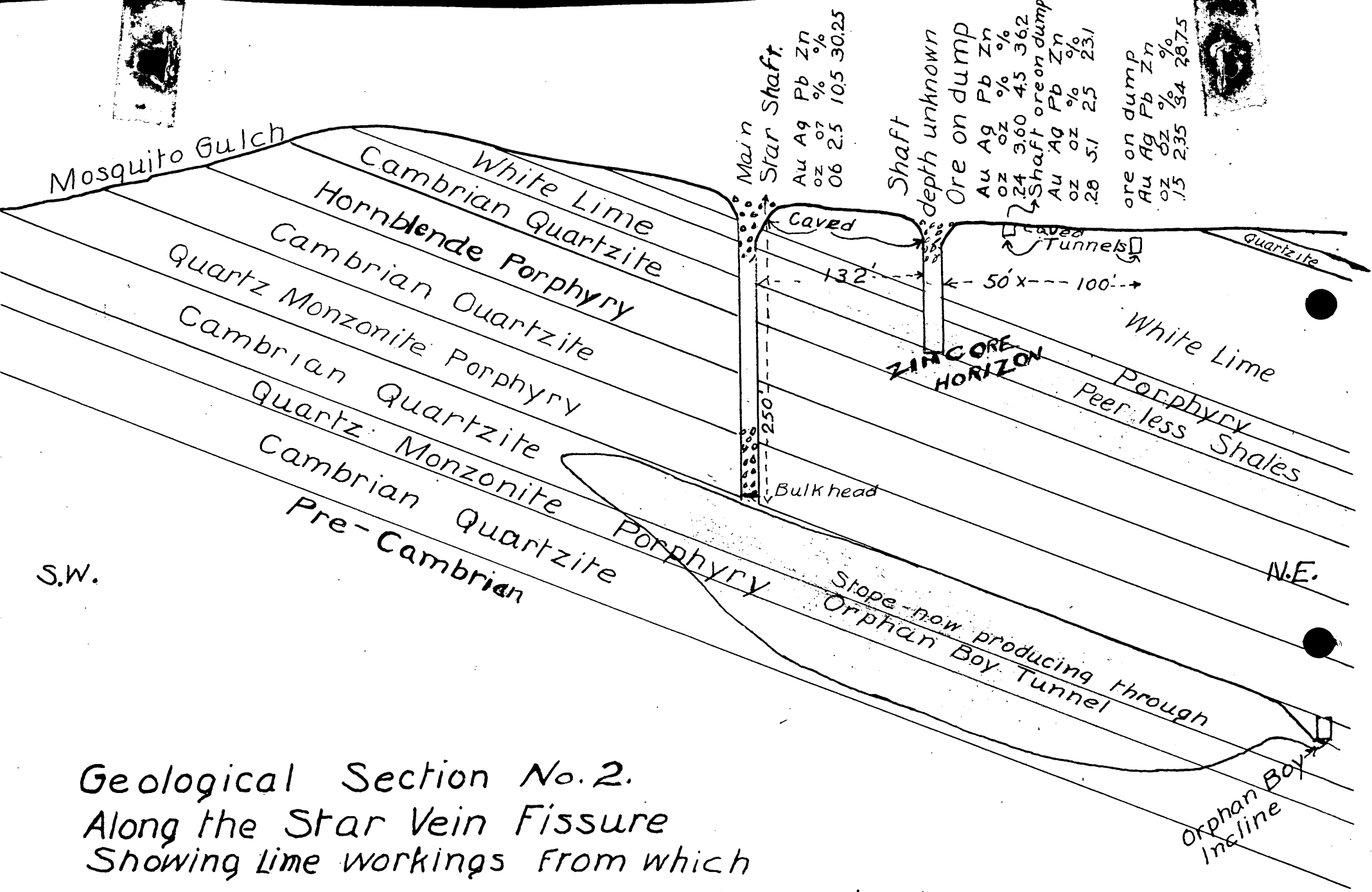
Item 23 (f) should be fully explained so that the committee may know which items are to be rented and at what rate per month.

Field examination is needed. At time of examination, need of the above items could be explained to applicant.

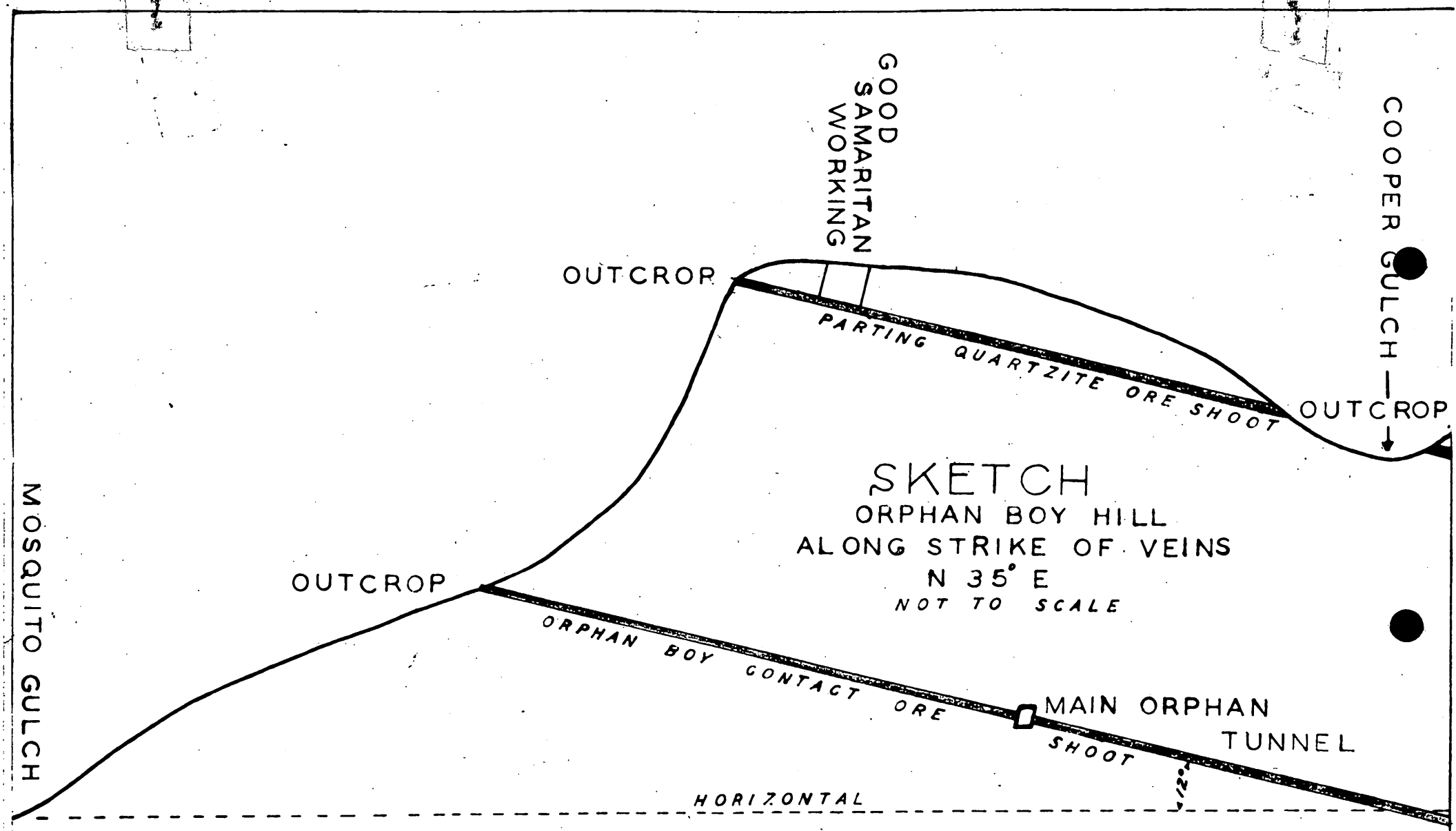
O. M. Bishop
Bureau of Mines
Lead-Zinc Section

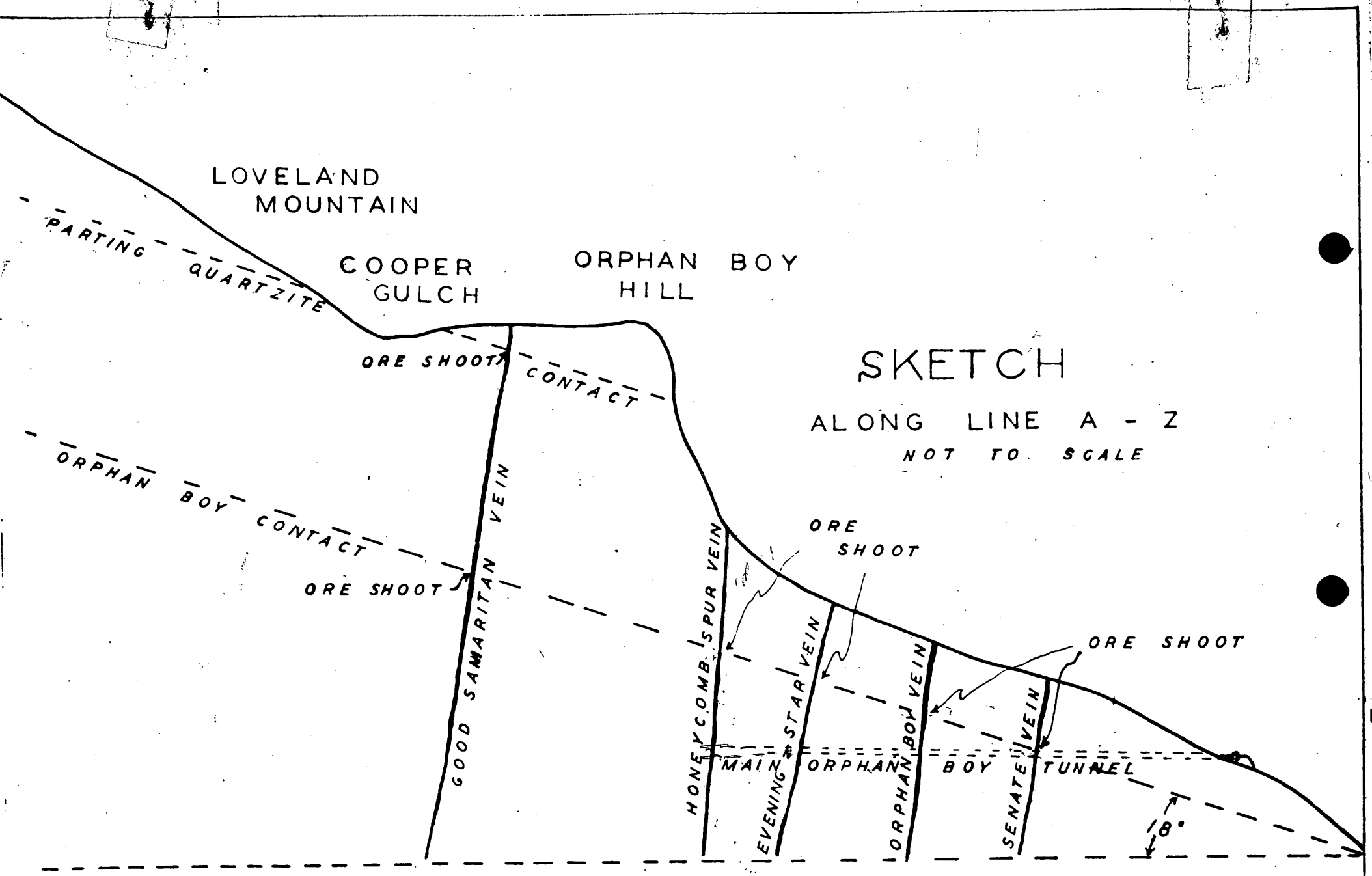
Geological Section Orphan Boy Mine No 1





Geological Section No. 2.
Along the Star Vein Fissure
Showing Lime workings from which
a large tonnage zinc ore has been mined
Orphan Boy Mine, Alma, Colo.


GOOD SAMARITAN WORKING
OUTCROP
PARTING QUARTZITE ORE SHOOT
COOPER GULCH
OUTCROP
SKETCH
ORPHAN BOY HILL
ALONG STRIKE OF VEINS
N 35° E
NOT TO SCALE
MOSQUITO GULCH
OUTCROP
ORPHAN BOY CONTACT ORE SHOOT
MAIN ORPHAN TUNNEL
12°
HORIZONTAL



SKETCH

ALONG LINE A - Z

NOT TO SCALE

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. dma 1890 249

Date received

Participation

M. J. Krolicki
2990 Locust Street
Denver, Colorado

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

Name and address of applicant

FILL IN THIS BLOCK

Date of application

Estimated cost $25,000.00

Mineral or metal Zinc

Percentage of Government participation 50%

Location of mine Alma, Colorado

Date of filing MF-100

DMA Docket Number, if available 249

INSTRUCTIONS

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

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation?
*2. If a partnership, state names and addresses of partners.
*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.
*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project.
*5. Are you the owner or the lessee of the property?
6. If owner, state what claims, liens, or encumbrances, if any, are against the property.
7. If lessee, attach a copy of the lease and state if it is in good standing.

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

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement.
9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)?

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

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.
    (*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

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

*11. State the present and former names of the property, if any.

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

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

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

15. State in detail how the ore could be shipped and how and where milled.

*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

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

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

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.

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

THE EXPLORATION

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

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

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

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

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:
    (*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.
    (*b*) Supervisors, by numbers and positions, with salaries of each.
    (*c*) Cost of necessary repairs to existing facilities, structures, and buildings.
    (*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.
    (*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
    (*f*) Cost of rental for equipment which the operator proposes to rent.
    (*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
    (*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.
    (*i*) Cost of power, water, utilities, and any other items not provided for above.

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

CERTIFICATION

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

By M. J. Krolicki (Jesse)

(Name of company) (Signature of authorized official)

(Date) (Title)

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

*Same as footnote on page 1.

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

Information requested on M. T. 103.

A P P L I C A N T.

* 4 --- The applicant is M. J. Krolicki, who has operated the Orphan Boy Mine ever since the end of World War II, when theLondon Extension Mining Company cancelled the lease it held on this property. The work now planned will be under the direction of Rolf H. Luckenbach, who has had charge of the London Extension operation during World War II. A. E. Moynahan, Engineer of Mines and Metallurgy, will be General Manager of this operation as he also was of the London Extension Mining Company's activities. He is President of the Kennebec Mining Company, owner of the Orphan Boy Mine.

* 7 --- The lease is in good standing. Copies enclosed.

* 9 --- The applicant is able and intends to subscribe one half of the twenty five thousand dollars estimated as necessary to carry this Exploration Project to a successful conclusion.

P R O P E R T Y

*10 --- The Orphan Boy Group consists of twenty three lode claims, comprising 132.82 acres of patented land, situated on the foot of Loveland Mountain, in Park County, Colorado. The ore is sent to Leadville, Colorado, by haulage in trucks. Distance about 80 miles.

* 14 --- The Main tunnel is equipped with twelve pound tee rails and two inch compressor air pipe, but there is no other rail or pipe that can be used on the Exploration Project.

There is an ore bin at the portal of the main tunnel of sixty tons capacity. A compressor room and blacksmith shop. Neither of the two last mentioned are equipped. Equipment used during World War II and since, was rented and has been removed. Since the end of World War II the mine has been operated by the present lessee, M. J. Krolicki, until the slump in the price of lead and zinc made the operation unprofitable.

This development project consists of 1. driving the main Orphan Boy Adit Tunnel a distance of one hundred and fifty feet on westerly to cut the Honey Comb Spur Vein; and to 2. raise on that vein a distance of 180 feet to the quartz monzonite porphyry. The contact of this porphyry and the underlying Cambrian Quartzite is known as Orphan Boy Contact. This contact has been the locus of a very large percentage of the commercial ore produced from the Orphan Boy Property. By this work the Orphan Boy contact will become available for ore production west of the faulting that caused the mine workings to follow the wrong contact a distance of a thousand feet. (See Colorado State Bulletin No. 3) and both the Honey Comb and Honey Comb Spur veins will be opened at a recognized productive geological horizon;

The second and most important part of this development program is the continuation of the raise of 93 3. feet which has been used as an ore chute on one side and as a waste chute on the other side of a double two inch plank partition.

This chute reaches from the Level of the Adit Tunnel to the bottom of the Cambrian Quartzite and the output of the productive area on the Evening Star Vein has been mined and brought to surface through it.

This raise was made on the Water Course Faulting slightly west of the Evening Star Vein and by deflecting the continuation of it until it reaches the Evening Star Fissure and then following the vein a distance of one hundred and seventy five feet; the Peerless Shale Horizon will be encountered and with one handling the rock and ore mined can be sent to the main tunnel level through this raise, a total distance of 93 + 175 = 268 feet.

The Peerless Shale (i.e.) the contact between the Silurian White Limestone, with the underlying Cambrian Quartzite could be reached through the Evening Star Shaft (old and in poor condition) or by continuing the Purcell Raise, a distance of seventy (70) feet. However, the mined material would need be handled twice to get it to the adit tunnel level: which, at the rate ofpay and the inefficiency of labor now prevailing, renders the first mentioned continuation of the lower raise decidedly best.

The importance of opening thePeerless Shale on the Evening Star Vein must not be discounted. The Evening Star Vein is, and has been, a producer of high grade zinc ore, and the Peerless Shale Horizon on Loveland Mountain has been found to have large replacement deposits of zinc ore in the Buckskin Joe

Mines, Inc. property. At least two veins there have been found productive in the Peerless Shale. One of these, the Phillips vein projects to the Honey Comb Spur vein in the workings of the Orphan Boy. However, the distance of this projection is excessive and the Evening Star vein has several features corresponding to the Phillips Vein.

REQUIREMENTS AND COSTS.

(A) Labor --- (Daily)

4 Drillmen @ $1.50 per hour per 8 hr. day	48.00
4 Drill Helpers @ $1.25 per hour, 8 hr. day	40.00
4 Trammers @ $1.25 per hr. per 8 hr. day	40.00
2 Compressor Men @ $1.50 per hr.8 Hr. day	24.00
1 Machanic @ $1.50 per hr. per 8 hr. day	12.00
2 Laborers @ $1.00 per hr per 8 hr. day	16.00
1 Foreman @ $1.50 per hr. per 8 hr. day	12.00

(B) 1 Superintendent & Accountant -- per month $400.00
1 Manager and Mining Engineer -- per month 400.00

(C) ? Estimated at a Thousand dollars 1000 .00

(D) None

(E) Will be rented

(F) ? Five Hundred Dollars per Month 500.00

(G) Has no equipment.

(H) Including powder, fuse caps, carbide, sharpening bits, etc, estimated at Ten Thousand dollars 10,000.00

(I) ? Gasoline Power will cost $10.00 per day or $1.25 a foot

* 24 --- Two months to get organized and start work. Six months m ore to finish the project.

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

JUN 18 1951

DATE .....

REFERRED TO:

1. Mr. Hewes
2. Mr. Fox Roosevelt
3. For Mr. E.H. Lyons
4.

Rm 3618

FOR:

..... Action	..... Recommendation
..... Approval	..... Record
..... Comment	of .....
..... Conference	..... Referring
..... Consideration	to .....
..... Filing	X Reply for signa-
..... Instructions	ture of .....
..... Investigation	..... Rewriting
..... Initials	..... Signature
..... Mailing	..... Suggestions
..... Previous correspondence	..... Your information

REMARKS: Answer to Mr. Lyon's letter of May 25, 1951

Check (X) before the items needing attention.

LANDON F. STROBEL

Initials of sender.

GPO 16—63815-1

M. Herres

Air Mail

Denver, Colorado
June 14, 1951

Re: Docket DMA- 249

Defense Materials Administration
RECEIVED
JUN 1 8 1951
LANDON F. STROBEL
Executive Secretary

Mr. Otto Herres
Chief of Lead & Zinc Branch of DMA
Washington 25, D.C.

Dear Mr. Herres,

It has been necessary for me to await the return of my engineer A. E. Moynahah E. M. from Goldacres Mine in Nevada before answering your letter of May 25.

I have just had a conference with him and while he assured me that with the rapidly raising cost in mining makes estimates difficult and unreliable he gave me the following. Driving Main Tunnel to the Honey Comb Vein $15,000.00. Rehabilitating the Evening Star Shaft or Driving the Purcell Raise to the Perless Shale horizon $10,000.00. It had been figured prior to making our application that the first two mentioned projects should be included leaving the third until it could be financed with proceeds from the others.

This may not be in keeping with your line of thinking. If not the cost of all three projects would be THIRTY FIVE THOUSAND DOLLARS.

Mr. Moynahan says a year should be sufficient for the completion of this work but asks your indulgence on detailed cost until it can be organized and work started. He states that you can guess exactly as closely as he can, and maybe closer.

The mine is equipped with rails, air pipe and a car or two. Will I be able to change rental on them?

All other equipment will have to be rented. I feel certain that I can obtain funds to pay one half of the expense of all three projects if you decide they should be undertaken at this time.

I also wish you to know that we expect to make a small production or ore from the Evening Star Vein from the start.

Sincerely Yours,

M. J. Krolicki

JUN 18 1951

M.J. Krolicki
2990 Locust St.
Denver, Colorado

3

MF-202

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owner in fee simple of that certain parcel of ground in the county of Park, State of Colorado, described in a certain Exploration Project Contract dated _____, 195__, between M. J. Krolicki, the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated May 5, 1945, does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

The undersigned further agrees that if said leasehold interest should be surrendered or if said lease should terminate at any time prior to the expiration of the rights of the United States of America under said Exploration Project Contract, the undersigned shall assume and does hereby assume all of the obligations of the Lessee under said Exploration Project Contract to make repayment to the United States of America according to the terms of said contract; and

The undersigned agrees to commit no act, nor assert any claim under judicial process or otherwise that may contravene or conflict with the prior lien and claim of the United States of America under the provisions of said Exploration Project Contract.

This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this 18th day of July, 195_1

KENNEBEC MINING CO.

A. E. Monahan
President

G. H. Roberts
Secretary

U. S. GOVERNMENT PRINTING OFFICE 940768

DMR-246
249

DENVER
Colorado
December 12
1950

Mr. John East
Regional Director
New Custom House
Denver - 1
Colorado

Dear Mr. East:

I am the lessee of the Orphan Boy Mine, situated three miles west of the town of Alma in Park County, Colorado.

The property consists of a solid block of patented lode claims comprising in all 132.67 acres, covering the eastern lower slope of Mount Loveland. My lease is for five years and can be extended.

The owner of this property is the Kennebec Mining Company, a corporation under the laws of the State of Colorado. The main office of the company is The Colorado National Bank.

The Orphan Boy Mine is one of the oldest and best known in the entire Alma District. It has been a more or less constant producer of smelting grade ore since 1864. During the Second World War, operating under an R.F.C. loan, from 2437 tons, the following metals were produced:

371.56	troy ounces	of metallic		gold
7440.18	troy ounces	"	"	silver
43.662	short tons	"	"	lead
235.80	short tons	"	"	zinc
8.58	short tons	"	"	copper

After World War II the mine continued to operate until rising costs caused the suspension of mining activities.

The mine still has a zinc bearing vein of commercial width and grade, with unexplored backs of two hundred and fifty feet, which can be followed in both directions on the vein, as well as toward the surface. This vein is known as the Evening Star Vein. The ore, high in zinc, is known to be continuous to the surface and is exposed there in three shafts.

A geological horizon, known as the Peerless Shale, has in recent years been found more productive of zinc ore than any horizon in the Alma District. There has been no investigation as yet on this horizon in the Orphan Boy Mine. The Evening Star Vein could be investigated at the Peerless Shale horizon and work both ways on the vein by removing the bulk-head, of thirty five years standing, from the Evening Star shaft and rehabilitating this shaft as a working compartment, or the Purcell raise could be continued on the vein for another seventy feet to reach the zinc bearing zone in the Peerless Shale above.

Vein No. 1 has produced some zinc ore of forty per cent grade. A drift of two hundred and fifty feet on the vein to the northeast would reach the Peerless Shale horizon, where zinc replacements, can be expected.

The Honey Comb Vein can be opened by continuing the main Orphan Boy Tunnel on west another two hundred and fifty feet. The ore of this vein is high in both zinc and copper.

The mine needs equipping with compressor and drills, as this equipment was removed when World War II ended.

To make this property immediately productive and to do the five hundred feet of driving on the main tunnel level, and to rehabilitate the Evening Star shaft will require Twenty-five Thousand Dollars, and your consideration of assistance by the Government to that extent is hereby requested.

Herewith is furnished a report on the Kennebec Mining Company's property by A. E. Moynahan, E.M., 704 U. S. National Bank Building, Denver - 2, Colorado.

Sincerely yours,

M. J. Krolicki

M. J. Krolicki
2990 Locust Street
Denver - 7,
Colorado.

AGREEMENT OF LEASE

THIS AGREEMENT OF LEASE, Made this 5th day of May, 1945, by and between the Kennebec Mining Company, a Colorado corporation, party of the first part, hereinafter called the Lessor, and M. J. Krolicki, party of the second part, hereinafter called the Lessee.

W I T N E S S E T H:

That the said lessor, for and in consideration of the royalties, covenants andagreements, hereinafter reserved and by said lessee to be paid, kept and performed, has granted, demised and let, and by these presents does grant, demise and let unto the said lessee, all the right, title, and interest of the said lessor in the following described property, situated in Park County, State of Colorado, to-wit:

The "Orphan Boy" lode mining claim, being United States Mineral Survey Lot No. 37, the United States patent for which is recorded in Book 38, at Page 208, of the records of the office of the Clerk and Recorder of Park County, State of Colorado.

The "DeMary lode mining claim being United States Mineral Survey Lot No. 38, A, B, and C, the United States patent for which is recorded in Book 38, at Page 212, of the records of said Park County.

The "Honey Comb" lode mining claim, being United States Mineral Survey Lots No. 39 A. and B, the United States patent for which is recorded in Book 38, at Page 212, of the records of said Park County.

The "Evening Star" lode mining claim, being United States Mineral Survey Lot No. 1415, the United States patent for which isrecorded in Book 24, at Page 337, of the records of said Park County.

The "Senate" lode mining claim, being United States Mineral Survey Lot No. 366, the United States patent for which is recorded in Book 24, at Page 333 of the records of said Park County.

The "Silver", "Iroquois","Strip", and "Ridge" lode mining claims being United States Mineral Survey Lot No. 6945, the United States patent for which is recorded in Book 48, at Page 253, of the records of said Park County.

The "Double Standard"lode mining claim, being United States Mineral Survey Lot No. 3034, the United States patent for which is recorded in Book 38, at Page 222, of the records of said Park County.

The "Buncombe" lode mining claim, being United States Mineral Survey Lot No. 13336, the United States patent for which is recorded in Book 56, at Page 96, of the records of said Park County, less the west 450 feet.

The "Forest" lode mining claim, being United States Mineral Survey Lot No. 6547, the United States patent for which is recorded in Book 56, at Page 38, of the records of said Park County, less the West 450 feet.

The "Evangelist" lode mining claim, being United States Mineral Survey Lot No. 4661, the United States patent for which is recorded in Book 56, at Page 60, of the records of said Park County.

The "Southwood" lode mining claim, being United States Mineral Survey Lot No. 4396, the United States patent for which is recorded in Book 56, at Page 65, of the records of said Park County.

The "Kennebec" lode mining claim being United States Mineral Survey Lot No. 9034, the United States patent for which is recorded in Book 56, at Page 6, of the records of said Park County.

The "Vincent", "Lockridge", and "Midland" lode mining claims, being United States Mineral Survey Lot No. 5823, the United States patent for which is recorded in Book 37, at Page 315, of the records of said Park County.

The "Good Samaritan" lode mining claim, being United States Mineral Survey Lot No. 4296, the United States patent for which is recorded in Book 56, at Page 135, of the records of said Park County.

The "January" lode mining claim, the location certificate of which is recorded in Book 10, at Page 29, of the records of the said Park County.

And such surface rights, rights of way and tunnel rights owned by the said lessor as may be necessary to operate the foregoing lodes, and also all railroads and tram tracks, air pipes, improvements and fixtures of every kind now located upon said leased lodes.

TO HAVE AND TO HOLD unto the said lessee from the 5th day of May, 1945, for and during and until the 25th day of June, 1955, unless sooner forfeited or determined through the violation of any covenant and hereinafteragainst the said lessee reserved.

And, in consideration of such demise the said lessee does covenant and agree with the said lessor as follows, to-wit:

To enter upon thesaid mine or mines or premises and work the same in mine fashion in manner necessary to good and economical mining so as to take out the greatest amount of ore possible with due regard to the development and preservation of the same as a workable mine or mines, and to the special covenants hereinafter reserved.

To work and mine the said premises, as aforesaid, steadily and continuously from the 1st day of August, 1945, and that any failure to work the said premises with at least fifty shifts of work per calendar month may be considered a violation of this covenant.

To properly pay all persons who shall do work or shall furnish material or mining, milling, or other machinery or other fixtures for working, preservation, prospecting, or development of any mine, lode, or deposit located on any portion of said leased premises, and a failure to do so shall be considered a forfeiture of this lease.

To well and sufficiently timber the said mine or mines at all points where proper, in accordance with good mining, and to repair all old timbering wherever it may become necessary.

To allow the said lessor, its officers and its agents from time to time, to enter upon and into all parts of the said property for the purpose of inspection, and to take samples of any and all ores that may be mined for assay or other use, but not to allow any person not in privity with the parties hereto

to take orhold possession of the said premises, or any part thereof, under any pretense whatever.

To occupy and hold all cross or parallel lodes, spurs, or mineral deposits of any kind which may be discovered by the said lessee, or any person under him, in any manner within the boundaries of any of said lodes as the property of the said lessor, with the privilege to said lessee of working the same as a parcel of the said demised premises.

To keep at all times the drifts, shafts, tunnels, and other workings where the said lessee may operate, thoroughly drained and clear of loose rock and rubbish unless prevented by extraordinary mining casualty.

If labor strikes shall arise preventing the said lessee from working said demised premises, or any part thereof, or if railroad strikes shall interfere with the transportation interests of the lessee as connected with the work under this lease, or if there shall arise any unforseen contingencies connected with the workings or machinery, then the lessee shall not be required to do work while such cause exists, and shall have a reasonable time for repair ing, for replacing, or adding to the plant, and if any unforeseen contingency connected with the works or machinery is not removed or remedied within a reasonable time, this lease shall terminate.

To comply in all regards with all provisions of the law of the State of Colorado in regard to mining and the prosecution ofmining work upon the said mining claims.

To pay and deliver to the said lessor as royalty the following per cents of the net smelter, mill, or mint returns values of all ore extracted from the said demised premises, or any part thereof:

On all ores of the value of under $20.00 per ton 5% royalty;
On all ores of the value of $20.00 per ton and not above $50.00 per ton, 10% royalty;
On all ores of the value of $50.00 and not above $100.00 per ton, 15% royalty;
On all ores of the value of over $100.00 per ton 20% royalty.

Upon the request of the lessor all ores shall be sold, sampled and settled for jointly by the lessor or its agents, and the lessee, and shall be sold to the person or corporation who will pay the highest price thereof.

The royalties to which the lessor shall be entitled as aforesaid shall be left with the purchaser of the ores, and shall be paid to the lessor and be subject to the order of the lessor.

The lessor shall be furnished with a duplicate statement of all ores at the time each lot is settled for.

The lessee shall pay or cause to be paid such proportion of the output tax which shall be assessed against the said leased premises, during the term of this lease, as the amount of the said lessee retains of the smelter returns value of the ore extracted from the said premises bears to the gross smelter returns of ore extracted from the said premises, and the lessee shall return that amount of the output to the tax officers as taxable to such lessee.

To deliver to the said lessor the said premises with the appurtenances and all improvements except the machinery put upon the said premises by the lessee, in good order and condition, with all drifts, shafts, tunnels and other passages where the said lessee shall have worked thoroughly clear of loose rock and rubbish and drained, and the mine or mines ready for immediate and continued working (accidents not arising from

negligence alone excusing) without demand or further notice on the said 25th day of June 1955, at noon or at any time previous upon demand for forfeiture.

And finally, that upon the violation of any covenant or covenants hereinbefore reserved, the term of this lease shall, at the option of the said lessor, expire, and the same and the said premises, with the appurtenances and improvements except the machinery put thereon by the lessee, shall become forfeiting to the said lessor, and the said lessor or its agent may thereupon, with or without notice, enter upon said premises and dispossess all persons occupying the same with or without process of law, and with or without force or at the option of the said lessor, the said lessee and all persons found in occupancy may be proceeded against as guilty of unlawful detainer.

And the said lessor expressly reserves to itself the property and right of property in all mineral to be extracted from said premises during the term of this lease.

At the expiration of this lease a copy of all working maps of the said premises shall be delivered to the lessor.

O P T I O N

In consideration of the acceptance of the foregoing lease, the expenditures to be made thereunder and the well and faithful keeping of the covenants thereof, the said lessee shall have the right to purchase the said demised premises, by the payment of Seventy-five Thousand Dollars ($75,000.00) to the said lessor on or before the 25th day of June, 1955, provided this lease is then in full force and effect, time being the essence of the contract as to such payment.

Upon written notice from the said lessee to the said lessor that the purchase money above mentioned is to be paid, the said lessor agrees to ratify and confirm the terms of this lease and option at a duly called stockholders meeting, and to place in escrow, within sixty days after date of said written notice, a good and sufficient mining deed to all the above described property, in the Colorado National Bank, of Denver, showing a clear and merchantable title in the said lessor, with instructions for delivery upon payment of the full purchase price. It is also agreed that any and all royalties paid under the terms of this lease are to apply on the purchase price and to be deducted therefrom.

Each and every clause and covenant of this agreement of lease shall extend to the successors, heirs, executors, administrators and lawful assigns of all parties hereto.

IN WITNESS WHEREOF, said party of the first part has caused these presents to be signed to its name by its President and its corporate seal to be hereunto affixed, attested by its Secretary, and the saidparty of the second part has signed these presents, in triplicate, the day and year first above written.

THE KENNEBEC MINING COMPANY

By A. E. Moynahan
President

ATTEST:

G H Roberts
Secretary

L E S S O R

M. J. Krolicki
M. J. Krolicki

L E S S E E

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 5/1

REFERRED TO:

1. Mr. Herres
2.
3.
4.

Pm. 3618

FOR:

..... Action	..... Recommendation
..... Approval	..... Record of .....
..... Comment	..... Referring to .....
..... Conference	X Reply for signature of .....
..... Consideration	..... Rewriting
..... Filing	..... Signature
..... Instructions	..... Suggestions
..... Investigation	..... Your information
..... Initials	
..... Mailing	
..... Previous correspondence	

REMARKS: .....

Check (X) before the items needing attention.

LANDON F. STROBEL

Initials of sender.

GPO 16—63815-1

LANDON F. STROBEL

Denver, Colorado,

April 26th, 1951.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 29 1951
LANDON F. STROBEL
Executive Secretary

MR. Otto Herres, Chief,

Lead Zinc Branch,

Defense Mineral Administration.

Washington 25,D. C.

RE. D. M. A- 249

Dear Mr Herres:-

I have read your letter several times and have studied the forms that came with it but I still am IN some doubt regarding the requirements.

Personally I am not financially able to off-hand subscribe my half of the development fund needed on the Orphan Boy Mine, near Alma, Park County, Colorado. but as you state in your letter I will likely be able to interest others who would be able to furnish it if Government Procurement Contracts for lead, zinc and copper were awarded to the operators of that mine.

You speak of negociations and suggest that an examination of the property may or may not be needed. Do these come prior to the Procurement contracts being granted ? I think I would need something definite before trying to interest outside capital.

Please give me some further information as to the working of this plan of financing.

MAY 7 1951 P

Most sincerely yours,

M. J. Krolicki

M. J. KROLICKI

2990 Locust Street
Denver 7. Colorado.

BUREAU OF MINES
WASHINGTON, D. C.
APR 30 3 10 PM '51

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE MAY 21 1951

REFERRED TO:

1. Mr. Herres
2.
3.
4.

Rm 3618

FOR:

..... Action	..... Recommendation
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..... Mailing	
..... Previous correspondence	

REMARKS: .....

Check (X) before the items needing attention.

LANDON F. STROBEL

Initials of sender.

GPO 16—63815-1

2990 Locust St.
Denver, Colorado
16 May 1951

Mr. Otto Herres, Chief
Lead Zinc Branch
Defense Mineral Administration
Washington, 25, D. C.

Re: D.M.A.-249

Dear Mr. Herres:

Since reading your letter dated May 3rd 1951, it seems to me that we have reached the point where the preliminary work on a fifty-fifty basis could be started on the Orphan Boy Mine at Alma, Colorado.

If there is anything in the way of an authorization from your Department needed by me prior to starting this exploration operation, will you kindly advise me.

Would it be possible to obtain a photostatic copy of my original application? I am unable to locate my copy. I will gladly pay for the copying expense.

Sincerely yours,

M. J. Krolecki

M. J. Krolecki

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 21 1951
LANDON F. STROBEL
Executive Secretary

MAY 21 1951

ORPHAN BOY MINE

NEAR

ALMA, COLORADO

The mining estate known as the Orphan Boy Mine is the large group of lode mining claims owned by the Kennebec Mining Company situated at the foot of Loveland Mountain about two and one-half miles west of the Town of Alma in Park County, Colorado. Alma is situated about one hundred miles southwest of Denver at an altitude of ten thousand three hundred feet. Transcontinental highway number nine passes through Alma going westward from Denver.

ALMA DISTRICT

The original discovery of gold in the Alma District was made about the year of 1860 but not until after the close of the Civil War did the district receive widespread attention and experience marked activity which activity reached a peak about the year of 1880. In the year of 1879 Leadville was discovered and proved to be so rich and glamorous that many of the miners hastened to seek their fortunes there. Thus is explained the fact that more complete development of the Alma District still remains to be accomplished. It is true that certain areas throughout the district have been worked and have been producing ore during all the intervening years but the district today offers excellent opportunity for further development and is second to no other district in Colorado in this respect. The London Fault Area especially has been

ORPHAN BOY MINE

PROPERTY

Name of Claim	Patent No.	Acreage
1. Orphan Boy	37	1.84
2. De Mary	38	1.45
3. Honey Comb	39	1.55
4. Senate	366	4.48
5. January	1180	2.98
6. Evening Star	1415	5.77
7. Connoran	2438	9.58
8. Double Standard	3034	6.69
9. Good Samaritan	4296	5.50
10. Southwood	4396	7.56
11. Evangelist	4661	3.02
12. Lockridge	5823	8.98
13. Midland	5823	9.59
14. Vincent	5823	10.33
15. Forrest	6547	10.33
16. Silver	6945	4.87
17. Iroquois	6945	7.31
18. Strip	6945	2.13
19. Ridge	6945	3.83
20. Kennebec	9034	9.62
21. Silver Luella	13144	6.98
22. Finale	13144	2.51
23. Buncombe	13336	5.77
	Total	132.67

decidedly active. The high average grade of the gold bearing ore produced there has caused it to be said that "The Alma District is the richest gold district in the world".

The district produces not only gold but silver, lead, copper, zinc, and has showings of tungsten and molybdenum. The mines that have produced ore in commercial quantities and grade are well spaced throughout the district and throughout the geological series, leaving large areas between that are favorable to ore deposition yet unexplored. Almost from the first discovery of gold near Alma the gulches have yielded placer gold and during recent years marked activity has returned to placer mining in the district.

HISTORY OF ORPHAN BOY MINE

Among the first discoveries made in this district was the opening of the Orphan Boy Vein. Soon after followed other discoveries and for many years these were owned and mined by various operators. About the year of 1890, C. B. Kountze and James Moynahan decided on a consolidation of a large group of claims including all producing claims in the neighborhood of the Orphan Boy.

The holdings of all the various owners were purchased and consolidated under one ownership as it now stands. The holding company, Kennebec Mining Company, was incorporated under the laws of the State of Colorado with a capitalization of one hundred thousand shares of one dollar par value and, it is interesting to know that, the men who made this consolidation died, each owning fifty percent of the entire

capitalization. After the consolidation was made the main working tunnel was driven and the mine successfully worked until the year of 1907 when the financial conditions made it advisable to suspend operations. Due to the advancing age of the operators activities were never renewed and since then the mine has been worked intermittently by lessees who mined the veins already open and did not attempt to open new veins. The only exception to this policy was the activities of a leasing company known as the Colorado National Gold, Inc.

This company, much to the chagrin of the owners of the property, resorted to widespread sale of stock and, as is not unusual, went bankrupt before some well planned development work could be completed.

EARLY PRODUCTION

There are no available or reliable records of the production of ore that has been made from this property. The early production was made by a number of different operators and no records of the shipments made are now to be found. The production made after the consolidation totaled more than a million dollars and the records on these shipments were lost in a fire. All that can now be said is that the total production was not less than two million dollars. Current statements in the district would indicate a much larger production.

GEOLOGY AND MINERALIZATION

Both the geology and type of ore deposition of the Alma District are similar to those in the Leadville

District. On the property of the Kennebec Mining Company the entire geological series from the pre-Cambrian schists to the Weber Grits of the carboniferous are present.

While some commercial ore has been mined from the top of the blue limestone and from the parting quartzite horizon, by far the most development and greatest production has been made from the Cambrian Quartzite immediately beneath an intrusive sheet of quartz porphyry. The contact between the quartzite and this especial porphyry sill is locally known as the Orphan Boy Contact.

The Cambrian Quartzite, having a total thickness of about one hundred feet, contains two other porphyry sills--one higher and one lower in the quartzite measure. The lower porphyry seems identically the same as the porphyry at the Orphan Boy Contact. The upper porphyry, while somewhat similar in appearance, is entirely different in composition from the other two. A failure to recognize this difference, when a fault brought this upper porphyry into the mine workings, resulted in the driving of a long incline drift on the wrong contact which had not been found mineralized anywhere in the Alma District. Here, as at the other points where this horizon has been opened, no commercial ore was found. Further prospecting under the upper porphyry sill is certainly not advisable but, above the sill between it and the Silurian Limestone, is found the Peerless Shales; a formation recently found so productive of zinc ore in the Phillips Mine situated a short distance north of the Orphan Boy. The Peerless Shales have not been prospected on the Orphan Boy Property but now

offer big returns for the moderate sum necessary to investigate this horizon.

The veins, which govern the trend of the ore shoots, are well-defined fault fissures. In most cases the throw of these faults is only a few feet. These veins all conform to a well-defined and well-known fault system having a trend of north thirty-five degrees east. At various horizons on the property these veins have been found to have ore shoots dipping with the formation. The top of the blue limestone, the parting quartzite horizon and the Orphan Boy Contact have been especially productive, however, none of the veins have been opened at more than one of the producing horizons. Veins opened at the Orphan Boy Contact, and on which most of the work has been done, are those confined to the territory near the southwest corner of the property where the two upper mineral-bearing horizons have been eroded. Veins mined at the upper horizons have not as yet been opened on the Orphan Boy Contact. Four veins have been opened and worked on the Orphan Boy Contact. Several others have been cut in the workings but not on a contact. These veins have no ore where opened, thus proving the veins to be ore bearing only on a contact. The veins opened on the Orphan Boy Contact are the Senate, Orphan Boy, Evening Star and Honey Comb Spur. Other names have been used to designate certain portions of these four veins (ie) New Years, Honey Comb, Honey Comb No. 3 and Lucky Strike.

Cross faultings have been designated as the Water Course, Honey Comb and Elsie. Other small cross faultings are found at various places in the mine. The throw on any of

the cross faults is not more than six feet with the exception of the Honey Comb Fault which is about fifteen feet and the fault that caused the displacement of the Orphan Boy Contact at the beginning of the western incline drift on the wrong contact where the throw must have been at least seventy feet.

The ore shoots in the four veins that have been opened and mined in the Cambrian Quartzite of this property have proved continuous and with little change in size from the outcrop at surface down along the contact on a twelve degree dip as deep as the workings have yet reached.

The size of the ore shoots is such that no waste need be mined at any time and in places a full-sized drift has been driven leaving unmined ore still standing on both sides. Wherever the ore was of shipping grade it has been mined but wherever it was of lower grade, only the width of a drift was mined, thus leaving a very considerable quantity of ore of good milling grade yet unmined. This unmined ore has not been crosscut. To sample it or make an accurate estimate of the tonnage is impossible. An inspection, a sampling of faces, and a knowledge of the nature of the deposit permits one to form an opinion of the quantity and grade. The ore mined from the sections of these veins that were of insufficient value to ship has been placed in dumps at the portal of the main tunnel. A sampling of these dumps should convey the best information as to the grade of the unmined ore now showing. No systematic sampling of these dumps has been made but several shipments of crude ore and

screening from various sections of the dumps have been made to the smelter at Leadville, the returns on which are herein listed.

The ores so far mined from this property have for the most part been very heavy sulphides, containing pyrite, chalcopyrite, galena and sphalerite (ie) the sulphides of iron, copper, lead and zinc. However, a considerable quantity of completely oxidized ore was mined from the four veins of the Orphan Boy main tunnel where the ore shoots came to the surface in Mosquito Gulch. Some lead carbonate ore was mined from the shafts on the Good Samaritan Vein at the Parting Quartzite Horizon. The ore to be mined in the future from the Cambrian Quartzite will likely all be sulphides while the ore from the two upper ore horizons will be partly sulphides and partly oxidized.

Two geological surveys of the Alma District have been made. One by the State of Colorado under the direction of R. D. George and one by the United States Geological Survey, under the direction of B. S. Butler. The first has been reported in State Bulletin No. 3 and the second in Colorado Scientific Society Proceedings, Volume 13, No. 4. From the work of the U. S. G. S., the following section of the formation at the Orphan Boy Mine was ascertained.

Formation	Age	Thickness
Weber	Carboniferous	Variable
Blue Limestone	Carboniferous	200 feet
Parting Quartzite	Devonian	30 feet
White Limestone	Ordovician	175 feet

FORMATION	Age	Thickness
Transition Beds	Cambrian (Peerless Shales)	40 feet
Quartzite	Cambrian	25 feet
Monzonite Diorite	Eruptive	25 feet
Quartzite	Cambrian	45 feet
Quartz Monzonite	Eruptive	25 feet
Quartzite	Cambrian	15 feet
Quartz Monzonite	Eruptive	Variable
Quartzite	Cambrian	30 feet
Gneiss & Pegmatite	Pre-Cambrian	

Several theories regarding the localization of the ore shoots at the Orphan Boy Contact have been advanced. The most logical one seems to be that the porphyry sill being impervious to ascending mineral-bearing solutions in the fault fissure has checked the flow and caused precipitation beneath the porphyry. Quentin D. Singewald of the U.S. G. S. has called attention to the fact that, if the theory is correct, beneath the lower porphyry sill should be found even larger ore shoots than are found on the Orphan Boy Contact as the mineral-bearing solutions would experience a similar checking beneath that porphyry. Although the testing of this feature could be quickly and cheaply accomplished from the workings on the Orphan Boy Contact, no attempt to substantiate the theory has, as yet, been made.

From the report of the U. S. G. S. findings on page 125, speaking of undiscovered ore bodies the following is quoted, "Gold deposits comparable in size and value to those already discovered in the middle and upper part of the Sawatch

Quartzite are likely to be found within the limits of known gold production. The most favorable localities are the lower slopes of Loveland Mountain and the lower slopes of Mount Bross for a short distance north of Buckskin Gulch."

This statement is of interest and herein given because the Orphan Boy property starts at the foot of Loveland Mountain and extends nearly half way to the top of it.

GRADE AND TONNAGE

The veins of this property have been worked only for shipping-grade ore over a period of more than sixty years. Ore of milling grade is found in all workings on veins throughout the entire property.

There has been no systematical sampling done to establish the average grade nor any attempt made to measure or estimate the tonnage of the milling-grade ore now opened.

Any estimate made without first crosscutting the ore at certain intervals and sampling and measuring the tonnage would be nothing more than a guess.

The estates that own the property have never contemplated building a mill or selling the property but have been content to continue holding, paying the taxes and collecting any royalties that the small leasing operations might bring. As the lessees were interested in shipping grade only, no systematic sampling of the lower grade was done by them.

The only indications of average grade now avail-

able, other than the assays on a large number of run of mine samples, are the records of shipments of ore made to the smelter. Roughly the returns on ore shipped from the mine should convey an idea of the better grade ore and returns of shipments made from the dumps should indicate the grade of the ore left unmined in the present workings as the dumps were made in driving drifts through the areas too low grade to be mined and shipped to the smelter.

Earlier settlement sheets and records of production on ore produced by the Kennebec Mining Company were destroyed in a fire but the following information compiled from the settlement sheets covering a certain period in the life of this mine and published in State Bulletin No. 3, Page 212, gives an average of the ore produced from all parts of the workings on the Orphan Boy Contact. The values as here given were the net smelter returns after both freight and treatment had been deducted and were figured with market prices of gold at nineteen dollars per ounce and silver at approximately fifty nine cents per ounce.

Vein	Tonnage	Value
Senate	1,729.366	$46,880.77
Orphan Boy	5,389.192	99,442.23
Honey Comb	1,150.026	20,917.69
New Years	583.074	9,417.69
Evening Star	1,425.058	29,436.79
Copper	684.860	22,697.38
Good Samaritan	38.697	321.51
Total	11,000.273	$229,113.87

This gives an average of twenty dollars and

eighty-three cents per ton.

From the same data we have the following comparison of veins.

Vein	Tons	Average Per Ton
Senate	1,729.336	$ 27.10
Orphan Boy	5,389.192	18.45
Honey Comb	1,150.026	18.19
New Years	583.074	16.15
Evening Star	1,425.058	20.65
Copper	684.860	33.14
Good Samaritan	38.697	8.30

From the figures given above, an average of at least six dollars for treatment and three dollars for freight has been deducted and therefore the general average of this tonnage as mined was nearly thirty dollars per ton. Figuring the values in this ore to be half gold and half silver, which is approximately correct, the present worth would be $43.75 per ton.

The ore shoots on an average contain approximately one ton of shipping-grade ore to three tons of lower-grade ore and therefore, in mining the eleven thousand tons shipped, there would have been thirty-three thousand tons of lower-grade ore developed which now remains in the property unmined and in the dumps.

By advancing the headings on these veins on the twelve-degree dip to the east and by the opening of other known veins by advancing the main adit level, additional tonnage could rapidly be developed.

The shipments made from the dumps were screened through a one-half inch mesh screen. The sulphides in the dump material has all slacked and gone to fines while such

rock as may be present, has remained coarse and may be eliminated by screening.

At the portal of the main tunnel are three dumps designated respectively as north, middle and south dumps.

The following gives the average content of gold and silver in each dump as shown by carload shipments;

Dump	Oz. Gold Per Ton	Oz. Silver Per Ton
North	0.135	7.38
Middle	0.15	7.63
South	0.16	1.60
Average	0.140	5.52

thus making the average value of the screened dump material, with the market price of gold at thirty-two dollars an ounce and silver at seventy cents per ounce, eight dollars and sixty cents per ton. Thirty-two dollars per ounce was the price of gold used in the smelter settlements.

By a large number of run-of-mine samples, taken over a long period and from all the veins worked, it was established to the satisfaction of the early operators that the average of the ore of less than shipping grade was five dollars per ton with a twenty-dollar market price for gold and silver at sixty cents per ounce. With the increased price of metals, the average grade as established by mine samples would be $7.29 per ton which checks farily well with the grades as shown by the dump shipments.

In milling ore, mine-run ore from which the higher grade ore has not been taken, a higher average mill head will

be obtained; i. e. $11.25 per ton with $20.00 gold and 0.60 silver or $13.60 per ton at present metal market prices. The mine has produced a number of carload shipments of very high-grade ore and small lots of ore containing as much as twenty thousand dollars per ton have been mined.

State Bulletin No. 3, Page 212, speaking of the settlement sheets in hand states as follows: "The gold runs in carload lots from 0.25 to 0.50 ounces with a good many returns of 1 to 1.50 ounces and occasionally still higher ones. The silver returns run from 10 to 25 and 50 ounces with some above and some lower than these figures. Ten returns from the copper vein gave an average of 3 to 4 percent copper and about twenty percent zinc."

From November 1st, 1942 to August 16th, 1944, the Orphan Boy Mine produced fifty carloads of zinc-bearing ore, all of which, with the exception of two carloads, went to the Golden Cycle Corporation Mill at Colorado Springs, Colorado.

Government bonus payments on the zinc, lead and copper made it possible to transport ore of this grade so great a distance for treatment. Ore of such character should be milled locally and a lead-iron contentrate, containing the major part of the gold and silver, should be made and sent to the smelter at Leadville, Colorado. The zinc, in a separate concentrate, should be sent to the zinc treatment plant in Oklahoma. Ore mined from

ORPHAN BOY MINE

Settlements for Period - November 2, 1942 to August 16, 1944

Settlement Date	Dry Tons	Oz. Gold Per Ton	Oz. Silver Per Ton	Lbs. Lead Per Ton	Lbs. Zinc Per Ton	Lbs. Copper Per Ton
Nov. 2, 1942	16.102	0.080	5.100	20.0	130.0	None
Nov. 6, 1942	22.747	0.090	11.400	38.0	176.0	5.0
March 10, 1943	52.649	0.20	3.600	25.0	105.0	6.0
March 10, 1943	50,592	0.185	3.960	19.0	144.0	None
March 19, 1943	49,754	0.125	1.930	12.0	118.0	6.0
March 19, 1943	50,623	0.280	4.015	33.0	163.0	14.0
March 19, 1943	49,065	0.280	3.850	26.0	160.0	12.0
March 30, 1943	50,653	0.205	3.740	23.0	147.0	10.0
April 2, 1943	43.725	0.195	2.950	24.0	182.0	10.0
April 30, 1943	44,388	0.140	3.695	29.0	214.0	10.0
May 18, 1943	48.797	0.175	2.265	35.0	246.0	9.0
June 4, 1943	52.910	0.250	5.250	33.0	230.0	9.0
June 11, 1943	53.127	0.300	7.230	39.0	234.0	10.0
July 6, 1943	54.098	0.190	4.250	21.0	164.0	10.0
July 6, 1943	54.202	0.135	2.980	22.0	188.0	8.0
July 13, 1943	53.788	0.105	3.085	33.0	124.0	6.0
July 23, 1943	50.540	0.170	4.030	42.0	170.0	10.0
Aug. 7, 1943	49.532	0.310	3.380	38.0	258.0	6.0
Aug. 17, 1943	49.445	0.180	2.290	24.0	211.0	7.0
Aug. 17, 1943	51.186	0.130	4.060	20.0	147.0	5.0
Sept. 7, 1943	49.133	0.045	4.520	32.0	178.0	6.0
Sept. 7, 1943	50.176	0.120	3.190	53.0	351.0	5.0
Sept. 27, 1943	52.221	0.080	2.010	53.0	184.0	3.0
Sept. 30, 1943	55.274	0.085	3.080	51.6	260.0	5.5
Oct. 12, 1943	57.784	0.065	2.390	37.0	280.0	5.5
Oct. 29, 1943	49.074	0.080	4.000	35.0	197.0	6.0
Nov. 11, 1943	49.620	0.085	4.180	37.0	209.0	6.0
Nov. 22, 1943	45.460	0.125	3.340	40.0	226.0	8.0

ORPHAN BOY MINE

Settlements for Period - November 2, 1942 to August 16, 1944

Settlement Date	Dry Tons	Oz. Gold Per Ton	Oz. Silver Per Ton	Lbs. Lead Per Ton	Lbs. Zinc Per Ton	Lbs. Copper Per Ton
Dec. 8, 1943	47.962	0.165	2.380	38.0	204.0	5.0
Dec. 17, 1943	48.610	0.155	2.880	32.0	166.0	5.0
Dec. 23, 1943	45.637	0.210	2.950	22.0	165.0	4.5
Jan. 12, 1944	47.983	0.245	2.330	32.0	181.0	3.0
Jan. 12, 1944	49.088	0.140	2,380	43.0	216.0	None
Jan. 19, 1944	45.815	0.155	2.780	36.0	165.0	9.0
Feb. 10, 1944	47.089	0.125	1.590	14.0	121.0	5.5
Feb. 14, 1944	49.547	0.185	1.545	20.0	106.0	3.0
Feb. 26, 1944	49.538	0.210	1.760	30.0	141.0	5.0
March 3, 1944	49.381	0.190	1.645	29.0	143.0	6.0
March 13, 1944	51.723	0.205	2.500	36.0	138.0	7.0
March 21, 1944	42.690	0.250	2.430	29.0	138.0	8.0
April 1, 1944	49.203	0.125	2.955	47.0	218.0	6.0
April 13, 1944	48.579	0.090	2.110	80.0	274.0	7.0
April 19, 1944	49.343	0.100	1.410	56.0	201.0	6.0
May 4, 1944	49.237	0.095	2.710	37.0	132.0	5.0
May 16, 1944	49.210	0.100	1.825	62.0	205.0	5.5
May 29, 1944	49,440	0.075	1.550	72.0	204.0	5.5
June 8, 1944	53.455	0.120	2.360	68.0	161.0	6.0
July 3, 1944	47.035	0.50	2.015	41.0	198.0	5.0
July 24, 1944	45.491	0.085	1.685	32.0	276.0	8.0
Aug. 16, 1944	59.952	0.090	1.800	28.0	421.0	7.0
Totals	2433.683	7.575	157.360	1780.6	9579.0	32.15

the Phillips Mine, and milled and marketed as outlined above, has yielded profits for several years without the government bonus payments.

The following data was compiled from the list of the settlement sheets herewith appended on the fifty carload lots shipped recently.

Total tons	2,433.68
Total ounces of gold	368.70
Total ounces of silver	7,660.11
Total pounds of lead	86,664.45
Total pounds of zinc	465,806.83
Total pounds of copper	15,638.56

The average assay per ton of these shipments is as follows:

Gold	0.15 Ounces
Silver	3.15
Lead	1.78%
Zinc	9.57%
Copper	0.32%

The average assay is a fairly accurate indication of the value of the ore that can be continuously mined from the Evening Star Vein as only a small amount of the ore shipped was from the Senate Vein.

Figuring this assay at prices that would be realized on the ore if milled locally, in the manner outlined above, we have the following values per ton of ore treated.

Gold	$ 3.00
Silver	2.00
Lead	1.80
Zinc	4.79
Copper	0.77
Total	$14.16

METALLURGY

The Mine Service Company of Denver has worked out the metallurgy on the ore of the Orphan Boy Mine. It has been found that around ninety-five percent of the gold and silver values can be saved in an eight-to-one flotation concentrate. The barren pyrite can be dropped to go with the tailings and can later be concentrated by either flotation or tabling. The pure pyrite, after it has been recovered, can be sold to the manufacturers of sulphuric acid. There is a ready market for such a product in Denver. It has been found that the gold and silver is contained in the cleavages of the pyrite and are not chemically combined therewith. The values can be freed with a grinding to thirty mesh or maybe coarser. No testing has yet been done to determine whether a clean zinc product free from gold and silver can be made. It likely can be and certain parts of these ore shoots are high in zinc. Carload shipments of crude ore carrying forty-five to fifty percent zinc have been made.

Tests made by Tom B. Crowe of the Merrill-Crowe Engineering Company of San Francisco, California on the heavy sulphides of the Orphan Boy Mine showed that ninety-three percent of the gold and silver values contained were readily amenable to cyanide treatment with a grind coarser than thirty mesh.

TRANSPORTATION

There is no railroad in the Alma District and all transportation is by trucks.

The Orphan Boy Mine is especially well situated for truck haulage. The main workings can be reached in autos during the entire year if the road is continuously used.

The cost of transporting ore or concentrates to the smelter at Leadville, Colorado, is $4.50 per ton and the cost to the Golden Cycle Corporation at Colorado Springs is $4.65.

The main workings of this mine are only one quarter of a mile off the road leading to the Record Custom Mill which road is maintained open and in good repair the year around. The distance from the portal of the main tunnel to the Record Custom Mill is two and one-half miles.

TIMBER AND WATER

The ground in the main workings of this property requires no timbering. The only timbers to be found in it are holding the surface wash at the tunnel portal. Yet the entire workings are open for immediate inspection with the exception of those below the level of the adit tunnel which are now filled with water but can be made accessible with a very modest pumping expense.

A growth of pine and spruce trees, suitable for both mine timbers and fuel, is found on the property .

The mine furnishes a large stream of water the entire year, sufficient for a milling operation of several hundred tons per day capacity. A millsite and ground favorable to tailings disposal is to be had at the portal of the main tunnel.

CONCLUSION

While much has been said herein about the present available ore, by far the most attractive feature of this property is the development possibilities.

The Phillips Vein, a vein of the same fault fissure system as those of the Orphan Boy Mine, should be within one-hundred and fifty feet of the present breast of the main adit tunnel. The Phillips Mine, situated in Buckskin Gulch at a point northeast of the Orphan Boy, has a record in production from this single vein equal to the entire production of the Orphan Boy Mine.

The adit level should be driven to cut this vein and then continued to intersect other known veins west of the Phillips. Developments below the adit level on all the veins cut should be continued. This work would be productive of ore from the start.

The parting quartzite and blue limestone contacts should be reopened and developed. The production of high grade ore made from surface on the Good Samaritan Claim should have encouraged extensive development in that vicinity but very little work has been done there since

the claim was made part of the Orphan Boy consolidation. The Good Samaritan shafts are in fair condition and will furnish some production from the beginning of an operation.

A mineralized limestone is exposed in Cooper Gulch which has a thickness of seven feet and carries ten ounces silver to the ton. It should be investigated as the ledge promises to become an important source of mill feed.

The investigation of the Fearless Shales on the Orphan Boy property is especially recommended. The success experienced at this horizon in the Phillips Mine is almost certain to be repeated on the Kennebec Mining Company's holdings.

The ore in the Evening Star Vein to the south, from which nearly the entire production made from this mine since November 2nd, 1942, was taken, continues fully as strong as it has been and there is over seven hundred feet of this vein remaining virgin between the present breast and the outcrop of the Orphan Boy contact in Mosquito Gulch. The Purcell Raise on the Evening Star Vein has good showings of ore both north and south of the raise from which an immediate production of ore can be made. The Senate Vein below the tunnel level has a wide ore shoot in the breast. The ore, a heavy sulphide of iron, runs eight dollars per ton in gold and silver. The workings on this vein to the south above the tunnel level has a narrow streak of smelting-grade ore in the floor of the heading. Some of the ore marketed in 1944

was mined at this point. Pipe and track were allowed to remain in these workings so an immediate production can also be had here. The New Years Vein, in the recently started incline below the tunnel level, offers the best and most permanent immediate production of any point in the main tunnel. The vein, as exposed, is six or more feet wide.

The ground to the north on the dip of the contact is virgin to the boundary line of the property. The ore assays twelve dollars in gold and silver to the ton.

The Senate Vein, at two points on surface and some distance from the main tunnel workings, gives promise of ore production with very little development from the white limestone and Peerless Shales.

The milling-grade ore reserves of the Orphan Boy Mine are not sufficient to justify the building of a mill now. The Record Custom Mill, situated two and one-half miles west, now fills a long-felt want. Milling the ores of this mine and shipping and smelting only a clean concentrate will greatly increase the profits over those made by former methods. Most of the ore heretofore produced from the Orphan Boy, and especially the recent production, should have been milled prior to shipment thus saving materially on hauling and treatment charges besides realizing much higher prices on the metals produced.

This property has always yielded profits when only the higher-grade ores were a source of revenue. It

should yield greater profits when the lower-grade ore can also be utilized.

As has been stated, due to the nature of the ore shoots and the lack of crosscutting in areas where ore has been left unmined throughout the mine workings, it is difficult to accurately state the present assured tonnage. A conservative estimate of the ore in the dumps and standing opened unmined is fifty thousand tons having an assay value of eight dollars in gold and silver per ton.

This mine could be developed until the milling-grade ore would justify the building of a mill for the exclusive use of the Orphan Boy property thus saving the operator the cost of hauling the ore the distance to the Record Custom Mill and the profit over the actual cost of milling that would go to that mill in milling this ore on a custom basis.

The very nature of these contact ore deposits makes the cost of mining the entire ore shoot but little greater than blocking ore reserves.

An operator, wishing to increase his equity and not caring for immediate income from the ore mined, could mine and stockpile until sufficient ore to warrant the installation of a mill was at hand. The mine will furnish ore of higher grade than should be milled as the tailings loss will become greater than the costs of transportation and smelting. Ore of smelting grade should be marketed when mined thus saving the cost of a second handling.

The dumps should be screened prior to being milled and the coarse waste rock eliminated. Twenty thousand tons of ore assaying eight dollars per ton could thus be recovered.

The machinery needed to work this property is a compressor, drills, mine cars, a pump, steel and hand tools. Rails and air pipe are now installed to the principal headings.

Work can be started and carried on at all seasons of the year. Winter is most favorable for operation below tunnel level as the amount of water to be pumped at that season of the year is very small. A No. 6 Cameron Pump will handle the maximum flow in any of these veins in the summer.

The mine is well ventilated and safe. For that reason miners prefer working in the Orphan Boy Mine.

Recently the compressor used in the operation of the Orphan Boy Mine was powered with gasoline. The electric supply lines of the Colorado Power Company are within one-half mile of the tunnel portal.

With proper management this property will pay profits and will continue so to do for a number of years from the veins now opened. The virgin area that may prove to be as well mineralized as the section of this property that has been worked in the past is about two-thirds of the entire acreage.

This mine worked until 1942 for its gold and

silver values only has since that time made a very credible production. The future demand and scarcity of zinc will enhance the value of any mine producing that metal.

The size and grade of the ore deposits recently opened and mined in neighboring claims warrants any reasonable expense to locate and open any like ore shoots that there may be on this property.

The Orphan Boy has not been called upon to produce ore of milling grade and, until an attempt to make a production of mill feed only has been made, it is difficult to estimate the feasible daily tonnage that can be expected over any extended period of time.

It can be definitely stated that by milling locally and marketing only clean concentrates, a greater daily tonnage can be mined and more profit per ton of ore produced can be made than has ever before been possible in the history of this property.

Respectfully submitted,

A. E. Moynahan

A. E. Moynahan
Engineer of Mines and Metallurgy
704 U. S. National Bank Bldg.
Denver 2, Colorado

no date

October 16, 1951

Mr. M. J. Krolicki
6935 Richthofen Place
Denver, Colorado

Dear Mr. Krolicki:

This will acknowledge receipt of your letter dated October 13, 1951, regarding the status of your application for Government assistance, Docket DMA No. 249.

Your original application was for a direct loan and it was subsequently changed to an exploration application. In doing this, investigation of your property was naturally delayed. The brochure was forwarded to the Geological Survey on October 5 and the Bureau of Mines will make its investigation within the near future. You will be advised before the actual field examination is made.

The postscript on your letter is noted. This is to inform you that the engineers and geologists who conduct field examinations are not influenced by politics and the reports are purely technological. In view of their findings, this office is not influenced by politics in any way whatever.

Very truly yours,

J. H. East, Jr.
Regional Director

JHE:ftm
DMA File

REGIONAL DIRECTOR'S
OFFICE
REGION IV
OCT 16 1951
BUREAU OF MINES
DENVER, COLORADO

Denver, Colorado
October 13, 1951

Mr. John H. East, Jr.
New Custom House Bldg.
Denver, 2, Colorado

Dear Mr. East:

I have received letters from both Howard Young and Tom Lyon of the D. M. A. stating that application Docket No. 249 had been referred to the D. M. A. Field Team and stating I should contact you.

I wish to inquire as to when I may expect to have some definite knowledge regarding this loan. I think it must have been among the first applications made for mine explorations in Colorado.

Sincerely yours,

M. J. Krolicki

M. J. Krolicki
6935 Richthofen Place
Denver, Colorado

P. S. I have been told that politics govern these loans but as I have been a Democrat all my life, I fail to understand why I am treated like a Republican.

JHE

DMA

OCT 3 1951

Re: DMA-249

Mr. M. J. Krolicki
2900 Locust Street
Denver, Colorado

Dear Mr. Krolicki:

The Lead-Zinc Branch has reviewed your application for a loan to explore the Orphan Boy mine. Geologically the exploration appears warranted, but more details regarding mining costs are necessary before action can be completed. We believe this information can best be obtained by a field examination and, therefore, we are referring your application to Mr. J. H. East, Jr., Executive Officer, DMA Field Team, 224 New Customhouse, Denver, Colorado for further information and advice.

Very truly yours,

SIGN

Tom Lyon, Director
Supply Division

EJLyons:emp
G 9-27-51
Copies to: J. H. East, Jr. Region IV (2)
Chief, Lead-Zinc Branch
E. T. McKnight 4204 GSA
O. M. Bishop
Directors r. files 4214 GSA
Br. r. files 4214 GSA
Administrators r. file
DMA docket files

DMA

DEFENSE MATERIALS PROCUREMENT AGENCY
WASHINGTON 25, D. C.

OCT 4 - 1951

Mr. W. J. Krolicki
6935 Richthofen Place
Denver, Colorado

Dear Mr. Krolicki:

Reference is made to your letter of September 27 to Mr. Jess Larson requesting information on Docket No. 249, concerning a development loan for the Orphan Boy Mine near Alma, Colorado.

I understand that the Defense Minerals Administration requested additional information for making out the loan application and that you have submitted this information already. This was referred in turn to the Field Team on September 27 by the Lead-Zinc Branch of DMA, and you should have received a notification to this effect by this time.

We would suggest that you contact Mr. J. H. East, Jr., Bureau of Mines, 224 New Customhouse Building, Denver 2, Colorado, who has now been informed of your docket and I am certain that appropriate action will be taken from his office.

Very sincerely yours,

/Signed/ HOWARD I. YOUNG

Howard I. Young
Deputy Administrator

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

228 New Customhouse
Denver 2, Colorado

October 5, 1951

Memorandum

To: E. E. Dover, Jr. (with brochure)

(Through Chief, Mining Division, Region IV)

A. H. Koschmann

From: DMA Field Term, Region IV

Subject: DMA Docket 249, M. J. Kunicki, 2950 Lowell Street, Denver, Colorado, applicant, Orphan Boy Lead Zinc Mine, Elma District, Park County, Colorado

Enclosed is an application and review by the Coordinating Committee of the subject docket for an exploration loan of $25,000.

The proposed work consists of 150 feet of drifting and 355 feet of raising.

The geological probability of discovery is rated good, but the engineering and cost phases require field investigation. As this application is within the prerogative of the Executive Officer of Region IV to sign an exploration contract, please submit with your report the Exhibits and maps showing the proposed work.

Although a geological examination will not be required, the application should be discussed with Mr. A. H. Koschmann.

Please return the brochure with your report.

J. H. Ewing
J. H. Ewing, Jr.

Ogden Tweto
for A. H. Koschmann

Enclosure
WDM:oj
cc: DMA Subject and Chron.
AHKoschmann

DMH

REGIONAL DIRECTOR'S
OFFICE
REGION IV
JUN 25 1951
BUREAU OF MINES
DENVER, COLORADO

EJLyons: emp
G 6/21/51
Copies to: J. H. East, Jr. Region IV (2)
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
R. H. Mote
L. F. Strobel

Directors r. file 4214 GSA
Br. r. file 4214 GSA
Files

June 21, 1951

Re: Docket DMA-249

Mr. M. J. Krolicki
2990 Locust Street
Denver 7, Colorado

Dear Mr. Krolicki:

In reply to your letter of June 14:

Although the project you are proposing appears favorable from a geologic viewpoint, before further action can be taken on your application it will be necessary to have further information regarding operating costs, purchase price or rental value of equipment, etc. We are enclosing the following for your convenience:

(1) Form MF-103 on which are marked those items upon which more information is required. These should be answered in as much detail as possible. If the question does not apply, indicate this by "Does not apply" or "None".

(2) The map and sections removed from Mr. [illegible] L. Moynahan's report on the Orphan Boy mine. Please indicate on the map and on those sections the work you are proposing to do under this project. If the sections are used, their location on the map should be shown. Six copies of each of these will be required.

(3) Seven copies of Form MF-202, "Landlord's Subordination Agreement" six copies of which must be completed and returned to us.

(4) Seven copies of Form MF-201, "Mortgagor's Subordination Agreement", six copies of which must be completed and returned to us if there are any mortgages, claims, liens, or encumberances against the property.

If you should need any advice on the above, please see Mr. J. H. East, Jr, Executive Officer of the Field Team, Region IV, 224 New Customhouse, Denver 2, Colorado.

Very truly yours,

Otto Herres, Chief
Lead-Zinc Branch

Enclosures

Rec'd

JHE

K AL DIRECTOR'S
OFFICE
EGION IV
AY 9 - 1951
EAU OF MINES
VER, COLORADO

May 3, 1951

Re: Docket DMA-249

Mr. M. J. Krolicki
2930 Locust Street
Denver, Colorado

Dear Mr. Krolicki:

In reply to your letter of April 26, 1951 relative to your application DMA-249:

The applicant's share of the expenses for an exploration project may be in the form of his labor, rental of equipment charged against the project, and similar contributions in kind as well as cash funds. These contributions, plus the actual money requirements, may be made on a month to month basis, thereby eliminating the necessity of accumulating the entire amount of money required for the project prior to the start of operations.

If the exploration project is successful in determining that commercial ore bodies exist on the property, the owner is then eligible for additional Government financing by an application for a direct mining loan or a procurement contract.

The necessity for a field examination is dependent upon the completeness of the application submitted. If it is found that the information is adequate a field examination is not necessary. Your application contains such detail that, for the purpose of an exploration project, a field examination is not required. However, if a request for a loan or procurement contract is later submitted it may be necessary to examine in the field the results of the exploration project before final action could be taken on the new application.

We hope this information answers your question satisfactorily.

Very truly yours,

Otto Herres

OTTO HERRES, Chief
Lead-Zinc Branch

ALBrokaw:emp
G 5/3/51

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
Files

J. H. East, Jr.
Region IV

May 25, 1951

Airmail

Re: Docket DMA-249

Mr. K. J. Krolicki
2990 Locust Street
Denver 7, Colorado

Dear Mr. Krolicki:

In reply to your letter of May 16:

When a final decision has been made on your application you will be notified. If the decision is favorable, the Government will enter into an exploration contract with you, but the Government cannot pay or give credit for any work done or any costs incurred by you before that contract is completed and signed.

Routine

In order to more readily act upon your application, we would like more information regarding the costs of the project. This can be presented as suggested under item 23 of Form MP-103, a copy of which is enclosed for your convenience, or you can give an estimated cost for each of the separate parts of your proposal, such as the cost of rehabilitating the Evening Star shaft, of extending the Orphan Boy tunnel, etc., listing separately, however, the cost of rental of any equipment you may need.

We also would like to know if your contribution to the project will be in the form of cash, your labor, rental of equipment now owned by you, or some other form. If in the form of cash, please give the amount, and if in the form of your labor, or rental of your equipment, please state the value of these. The Government's contribution will be made as a repayment at the end of each month after the operator has submitted to the Government a statement of the work done and the costs incurred during that month. Hence, it is not necessary for you to have all the cash needed on hand at the beginning of the project, but it is necessary for you to contract for your full contribution to insure that the proposed exploration is completed.

An estimate of the time required to complete the project is also needed.

JHE

As removal of the geologic report in your application would delay consideration of your application, it is not feasible to get it photostated at the present time, although this might be done after the application is processed.

We regret this delay in processing your application, but will act upon it as soon as possible after we receive information on the above items.

Very truly yours,

Otto Herres

Otto Herres, Chief
Lead-Zinc Branch

Enclosure

EJLyons:cmp
G 5/25/51
Copies to: J. H. East, Jr. Region IV (2)
Chief, Lead-Zinc Branch
E. T. McKnight 4204 GSA
L. B. Moon
R. H. Mote
L. F. Strobel
Tom Lyon
Directors reading file 4214 GSA
Br. reading file 4214 GSA
Files

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

APR 12 1951

In reply please
refer to DMA-249

Mr. A. J. Krolicki
2300 Locust Street
Denver 7, Colorado

Dear Mr. Krolicki:

One of the purposes of the Defense Production Act of 1950 is the encouragement of exploration, development and mining of strategic minerals and metals. Where an applicant has proven reserves of strategic materials, Federal aid in mining can be given through procurement contracts for such materials as are in short supply. On the strength of these contracts, the applicant can obtain private financing in most instances.

The program recently approved for encouragement of exploration of strategic materials calls for participation on the part of the applicant. For zinc, lead and copper deposits it will be necessary to match Government funds on an equal basis. Funds advanced by the Government will be considered a loan, to be repaid if the exploration is profitable, but to be cancelled if unsuccessful. The details of the plan, explaining the projects that will be eligible for assistance, the terms and schedules of financing, repayment, and other pertinent information, are enclosed.

A review of your application (DMA-249) for financial aid in an exploration program at the Orphan Boy mine, Ouray County, Colorado indicates that your proposal may be considered under this exploration program. Details concerning expenditures that will be considered chargeable to exploration aid will be subject to a final determination by negotiation, but as a preliminary appraisal we believe that the program will apply to the total amount of your exploration, $25,000.00.

Before we can proceed further with consideration of your application, which may or may not require a field examination, please indicate your willingness to provide your share of the funds needed to carry out the proposed exploration. Any modification of your original proposal that you may wish to make will be considered, but you should be specific concerning the work you wish to undertake.

Very truly yours,

Otto Herres

[illegible], Chief
Lead-Zinc Branch

ABCampbell:emp
G 3/21/51 Copies to:
2 copies to J. H. East, Jr.
Exec. Officer Region IV
Chief, Lead-Zinc Br.
Enclosures

McKnight 4205 GSA
L. B. Moon
R. H. Note
L. F. Strobel
C. C. Wittendorf
Files

ATC
Acom

~~73 lode claims~~
~~Hamer ~~[illegible]~~ depth~~

249

Get
6 copies of claim map
6 of L.S.A.

map of proposed work

Is portal & ore surface blocks on
leased ground?

See J.H.E. re maps

131/25

188/15
2

13,936.50

13,508.00
135.0

19350.
1047.5
29825

31,000.00
29825
1175

MF-200
(June 1951)

Docket No. DMA 249
Commodity Lead-Zinc

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

A, B & C

A & B

EXPLORATION PROJECT CONTRACT [1]

It is agreed this ..... day of ....., 195..., between the United States of America, acting through the Department of the Interior, Defense Minerals Administration, hereinafter called the "Government," and [2] M. J. Krolicki, an individual
2990 Lowell Street
Denver, Colorado

hereinafter called the "Operator," as follows:

1. *Authority for contract.* This agreement is entered into under the authority of the Defense Production Act of 1950, pursuant to Mineral Order 5, entitled "Regulations Governing Government Aid in Defense Exploration Projects."

2. *Operator's property rights.* The exploration project shall be conducted on that certain property situated in the State of Colorado, County of Park described as follows: [3] Orphan Boy mine consisting of the following claims: Orphan Boy, No. 37; Dr. McCoy, No. 38; Holy Cross, No. 39; Evening Star, No. 1415; Senate, No. 366; Silver, Iroquois, Strip and Ridge, all No. 6945; Double Standard, No. 3034; Bulcombe, No. 13336; Forest, No. 6547; Evangelist, No. 4661; Southwood, No. 4396; Ranchero, No. 9034; Vincent, Good Samaritan, No. 4296; Lafayette, and Midland, all No. 9823; recorded in Book 10 page 29, Park County Court House

with respect to which the Operator represents and undertakes:

~~(a) That he is the sole owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached.~~

(b) That he is a lessee, in possession and entitled to possession, and the subordination agreement of the lessor is attached.

3. *Exploration project.* The Operator, within Ninety (90) days from the date of this contract shall commence work on a project of exploration for [5] Lead-Zinc; shall prosecute the work efficiently, expertly, in a workmanlike manner, in accordance with good mining standards, with suitable and adequate equipment, materials, and labor, all properly designed to bring the project to completion within a period of [6] seven (7) months from the date of this contract. The exploration project and the work to be performed are more fully described on Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, is made a part of this contract.

4. *Performance of the work.* The work shall be performed by the Operator, under his sole direction and control: *Provided,* That with the consent of the Government and its written approval of the contract or contracts, all or any part of the work may be performed by the Operator through contract or contracts with independent contractors. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

5. *Fixtures and improvements.* The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof. Any additional facilities, buildings, and fixtures, to be purchased, installed, or erected by the Operator, with the estimated cost of each, to which the Government will contribute currently its agreed pro rata share, are listed in Exhibit "A" attached hereto. The difference between the cost of such additional facilities, buildings, or fixtures, and the salvage value thereof at the conclusion of the work, shall be charged as a cost of the project to which the Government has contributed its pro rata share.

6. *Operating equipment.* Any operating equipment to be rented, purchased, or furnished by the Operator, with the allowable rental, purchase price, or depreciation, as the case may be, is listed under appropriate headings in Exhibit "A" attached hereto. As to equipment purchased for the project, the Government will contribute its agreed pro rata share of the cost thereof, and the difference between the cost and the salvage value at the conclusion of the work shall be charged as a cost of the project to which the Government has contributed its pro rata share.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property.
[4] Strike out the provision not applicable.
[5] Name of mineral.
[6] Not in excess of 2 years.

7. *Title to and disposition of property.* All facilities, buildings, fixtures, equipment, or other items costing more than $50 each, paid for or purchased with funds contributed jointly by the Operator and the Government, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the termination of the contract, if they have any salvage value, shall be disposed of for their joint account unless the Government, in writing, waives its interest in any such items. The Government may require the dismantling, severance from land, and removal of any such items in order to realize its interest in the salvage value thereof, and the cost of any such removal and of the disposal of the items shall be for the joint account of the parties in proportion to their respective interests.

8. *Labor and supervision.* An itemized schedule of labor, by numbers and classes (miners, muckers, millmen, etc.), and of supervisors, by numbers and positions, with the maximum wages or salaries that may be paid to each as an allowable cost of the project is set forth in Exhibit "A" attached hereto.

9. *Rehabilitation and repairs.* A statement of the cost of any necessary rehabilitation or repairs to put existing facilities, buildings, installations, and fixtures into useful and operable condition and which are to be allowed as costs of the project is included in Exhibit "A."

10. *Allowable costs of the project.* The costs of the project in which the Government will participate are limited to the necessary, reasonable, direct costs of performing the exploration work, including the costs of materials, supplies, engineering, power, water, analytical work, accounting, and utilities, including items of equipment costing less than $50 each; and the costs referred to in Articles 5, 6, 8, and 9, and the exhibits annexed to and referred to in this contract. Although the Government may pay part of the cost of new or additional facilities, structures, buildings, and equipment, only the depreciation on such items, computed as indicated in Articles 5 and 6, will be charged as a cost of the project. No items of general overhead, corporate management, interest, taxes, or any other indirect costs not expressly allowed by these provisions, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

11. *Accounts and audits.* The Operator shall keep suitable records and accounts of operations, which the Government may inspect and audit at any time. The Government may at any time require an audit of the Operator's records and accounts by a certified public accountant, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract.

12. *Progress reports.* The Operator shall provide the Government with monthly reports of work performed under the contract upon forms to be provided by the Government. Each monthly progress report shall bear the certification of the Operator and shall constitute the Operator's invoice of costs incurred on the project during the period covered by the report.

13. *Payment to the Operator.* The monthly progress report (invoice), to the extent approved by the Government, shall be processed for payment by the Government. Payment shall be made in the amount of 50 percent of the approved costs incurred; *Provided,* That the aggregate total of all sums paid by the Government under this agreement shall not exceed $15,500.00, which is 50 percent of the agreed estimated total cost of this project, $31,000.00.

14. *Final reports by Operator.* Upon completion of the project or termination of this contract, the Operator shall provide the Government with a comprehensive geologic and engineering report, including an estimate of ore reserves, to the best of his ability. Four copies of all reports shall be furnished to the Government.

15. *Repayment by Operator.* If, upon the completion of the exploration project or termination of the contract, the Government considers that a discovery or development has resulted from the work from which commercial production of ore may be made, the Government, within 6 months thereafter, shall so certify to the Operator, particularly describing and delimiting its estimate of the discovery or the development. Thereafter, if and as ore is produced as a result of such discovery or development, the Operator and his successor in interest shall be and become obligated to pay to the Government a percentage royalty on the net smelter returns or other net proceeds realized from such ore, concentrates, or metal produced within ten (10) years from the date of this contract, until the total amount contributed by the Government, without interest, is fully repaid or said 10 years have elapsed, whichever occurs first, as follows:

Of net smelter returns or other net proceeds not in excess of eight dollars ($8.00) per ton of ore: One and one-half (1½) percent.

Of net smelter returns or other net proceeds in excess of eight dollars ($8.00) per ton of ore: One and one-half (1½) percent, plus one-half (½) percent for each additional full fifty cents ($0.50) in excess of eight dollars ($8.00) per ton of ore, but not in excess of a maximum of five (5) percent.

This obligation to repay from net returns or proceeds shall be and remain a claim and lien upon the mineral deposit which is the subject of the exploration project and upon any production resulting from such discovery or development, in favor of the Government, until fully paid, or until said 10-year period has elapsed; and this claim and lien and the Government's right to repayment shall survive any termination of the contract, whether by completion of the exploration project or otherwise. This article is not to be construed as imposing any obligation on the Operator or his successor in interest to produce ore from any such discovery or development.

16. *No assignment of contract.* Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder.

17. *Termination and completion.* The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worthwhile discovery and in the opinion of the Government further operations are not justified. Upon the completion of the project or any termination of the contract the Operator shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; shall dispose of any unused materials, supplies, and equipment for the joint account of the Operator and the Government in the proportion of their respective interests; and shall pay to the Government its pro-rata share of any money remaining.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

(Operator)

By ----------

By ----------

U. S. GOVERNMENT PRINTING OFFICE 16—64066-2

Exhibit A
Exploration Project

The proposed project consists of rehabilitation of surface structures and the main Ophir Bay adit, repairing 93 feet of the existing stope raise and advancing it 175 feet to the Peerless shale, extending the main adit 150 feet to the Montgomery Spur fissure, raising 180 feet on the fissure, and exploring the favorable contacts reached by both raises with 100 feet of drifting.

A claim map is attached. Fig shows the proposed work.

The estimated working time is 9 months.

The following costs are estimated:

Rental of equipment	$4500.00
Labor and Supervision	14850.00
Supplies	10475.00
Rehabilitation	1175.00
Total cost	$31,000.00

Fixtures and Improvements

None

Operating Equipment

To be rented:

Item	Maximum allowable Monthly Rental
1 315 c.f.m. portable air compressor	475.00
2 drifters complete with two colmared arms	200.00
2 stopers	133.50
3 mine cars, 1-ton	60.00
1 mule	10.00
1 air hoist	73.00
1 mucking machine	250.00
1 portable blower	70.00
500 feet of blower tubing	43.00
	$1314.50

Rental will ~~be~~ be allowed on each item of equipment ~~while it~~ for the months during which it is in use.

Estimated total rental $4500.00

To be purchased:

None

To be furnished by operator:

None

Labor and Supervision

Labor:

1 night fireman and compressor man	$1.15 per hour
4 miners	$1.00 per hour
4 miners helpers	$1.35 " "
2 muckers or trammers	$1.35 " "
1 Compressor man - mechanic	$1.00 " "

The above rates are for an 8-hour, 5-day week with time and one-half for overtime

Supervision:

1 Superintendent who will also keep accounts and do engineering work $450.00 per month

Total estimated labor and supervision	13,500.00
Compensation insurance, payroll tax	1350.00
Total	$14,850.00

Supplies

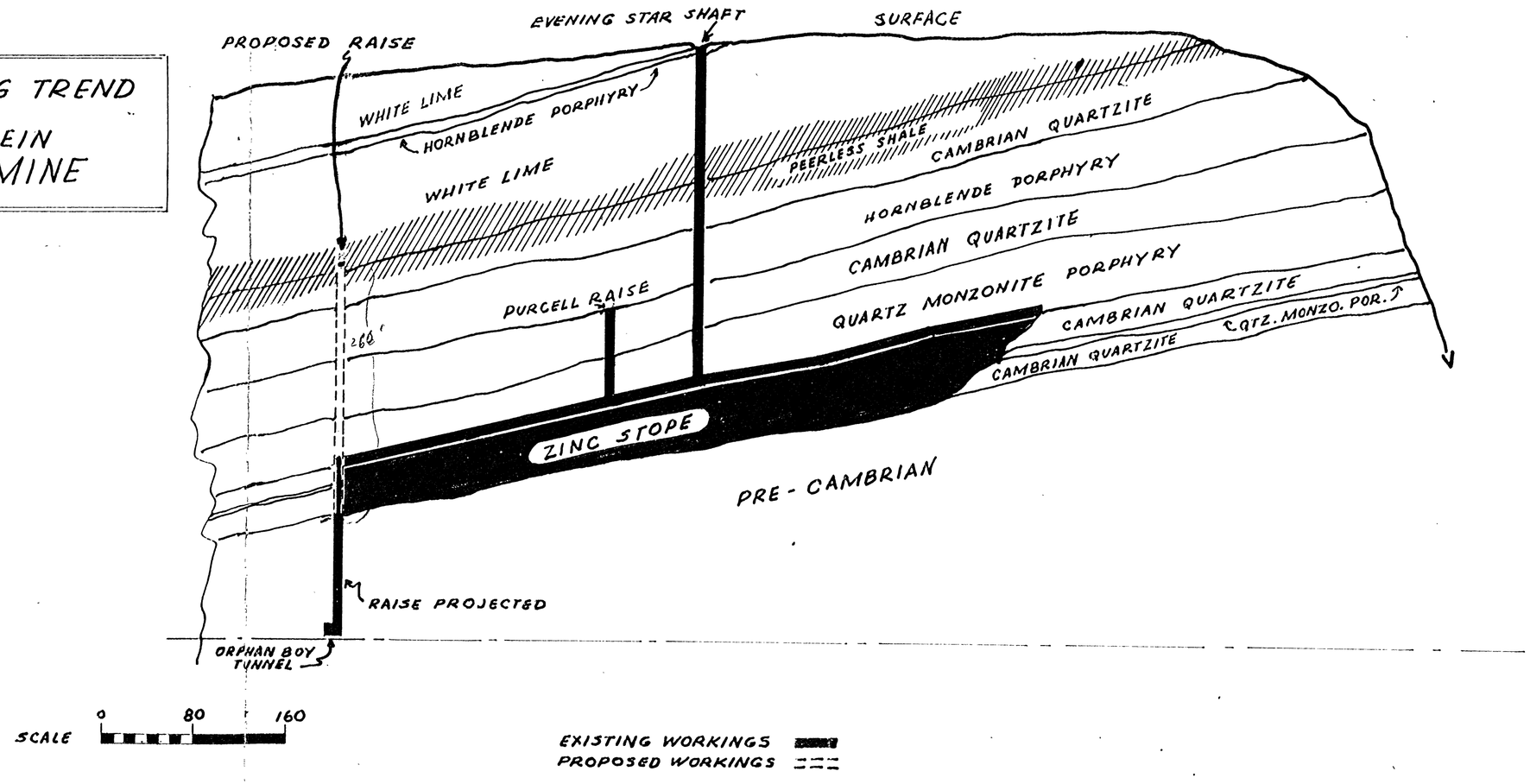
12-pound mine rail	$1550.00
Dynamite, caps, fuse	2850.00
Drill steel	250.00
Drill bits	750.00
Timber and lumber	3000.00
2-inch air pipe	225.00
Gasoline and oil	1000.00
Small tools	250.00
Assaying	100.00
Trucking equipment and supplies to mine	500.00
	$10,475.00

Rehabilitation and Repairs

Rehabilitation of surface buildings	300.00
Rehabilitation of Bighorn City adit	400.00
" " Evening Star raise	475.00
Total	1175.00

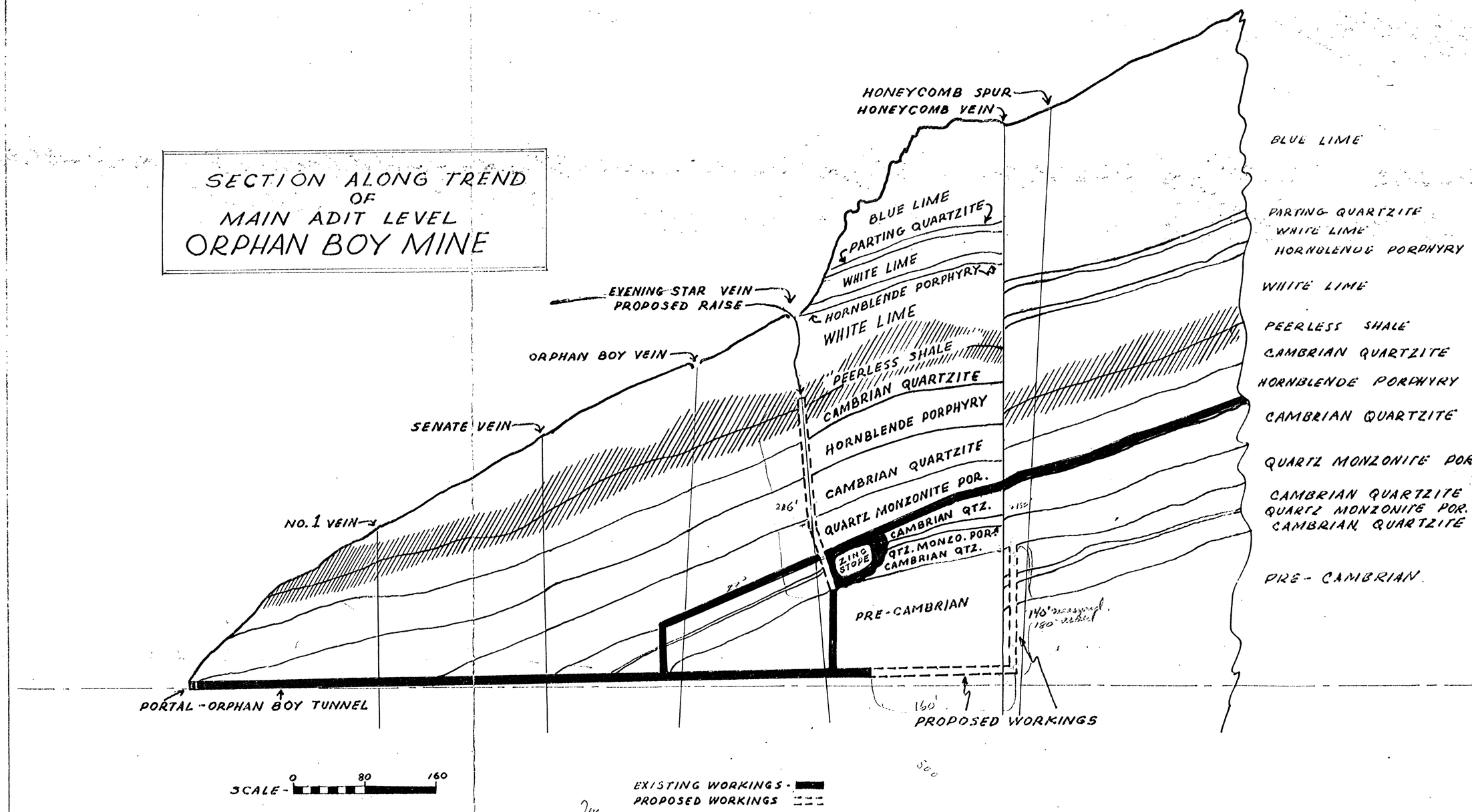
Dma 1882-249

SECTION ALONG TREND OF EVENING STAR VEIN ORPHAN BOY MINE



R. KROLIPKI 7-20-51

Dma 1892
249


SECTION ALONG TREND
OF
MAIN ADIT LEVEL
ORPHAN BOY MINE
HONEYCOMB SPUR
HONEYCOMB VEIN
EVENING STAR VEIN
PROPOSED RAISE
ORPHAN BOY VEIN
SENATE VEIN
NO. 1 VEIN
PORTAL - ORPHAN BOY TUNNEL
BLUE LIME
PARTING QUARTZITE
WHITE LIME
HORNBLENDE PORPHYRY
WHITE LIME
PEERLESS SHALE
CAMBRIAN QUARTZITE
HORNBLENDE PORPHYRY
CAMBRIAN QUARTZITE
QUARTZ MONZONITE POR.
CAMBRIAN QUARTZITE
QUARTZ MONZONITE POR.
CAMBRIAN QUARTZITE
ZINC STOPE
QTZ. MONZO. POR.
CAMBRIAN QTZ.
PRE-CAMBRIAN
140' measured
180' estimated
160'
PROPOSED WORKINGS
BLUE LIME
PARTING QUARTZITE
WHITE LIME
HORNBLENDE PORPHYRY
WHITE LIME
PEERLESS SHALE
CAMBRIAN QUARTZITE
HORNBLENDE PORPHYRY
CAMBRIAN QUARTZITE
QUARTZ MONZONITE POR.
CAMBRIAN QUARTZITE
QUARTZ MONZONITE POR.
CAMBRIAN QUARTZITE
PRE-CAMBRIAN
SCALE - 0 80 160
EXISTING WORKINGS -
PROPOSED WORKINGS
R. KROLICKI 7-20-51

KENNEBEC MINING COMPANY
CLAIMS OF THE
ORPHAN BOY HILL
1.84 ACRES 37 - ORPHAN BOY
1.45 " 38 - DE MARY
1.55 " 39 - HONEYCOMB
4.48 " 366 - SENATE
5.77 " 1415 - EVENING STAR
6.69 " 3054 - DOUBLE STANDARD
5.50 " 4296 - GOOD SAMARITAN (½ PART A, ALL " B)
10.33 " 5823 - VINCENT
8.98 " 5823 - LOCKRIDGE
9.59 " 5823 - MIDLAND
4.87 " 6945 - SLIVER
.731 " 6945 - IROQUOIS
2.13 " 6945 - STRIP
3.83 " 6945 - RIDGE
9.62 " 9034 - KENNEBEC
8.58 " 2438 - CONNORAN
10.33 " 6547 - FOREST
5.77 " 13336 - BUNCOMBE
3.02 " 4661 - EVANGELIST
7.56 " 4396 - SOUTHWOOD
6.98 " 13144 - SILVER LUELLA
2.51 " 13144 - FINALE
2.98 " 1180 - JANUARY
132.82 TOTAL
NOTE
7326 ORPHAN BOY PLACER (NOT SHOWN)
13.74 ACRES
200' = 1"
SCALE
100 50 0 100 200 300 400 500 600 800 900
NORTH
CONNORAN
BUNCOMBE
FOREST
KENNEBEC
SOUTHWOOD
EVANGELIST
FINALE
SILVER LUELLA
UNION
GOOD SAMARITAN
VINCENT
LOCKRIDGE
MIDLAND
RIDGE
STRIP
DOUBLE STANDARD
HONEYCOMB
IROQUOIS
DE MARY
SENATE
BRISTOL
SLIVER
ALICE LEE
EVENING STAR
ORPHAN BOY
JANUARY
OLD COLONY GROUP
COOPER GULCH
ROAD
TRAIL
EDGE OF CLIFFS
PROPOSED PHILLIPS VEIN
HONEYCOMB VEIN
SENATE VEIN
TUNNEL HOUSE
ORE HOUSE
ASSAY OFFICE
LEASED SURFACE GROUND
BOARDING HOUSE
ENGINE HOUSE
RAILWAY
CABIN
SHAFT HOUSES
ELEVATIONS ABOVE FLOOR OF TUNNEL AT A
BOTTOM TUNNEL AT B 4 F
TOP CHUTE AT C 52
BOTTOM TUNNEL AT D 128
" " " E 159
" " " F 180
" UPRAISE " G 178
" TUNNEL " H 18
SURFACE OVER H 346
TOP ORPHAN BOY SHAFT'S 217
" SHAFT No 1 307
" " 2 354
" EVENING STAR SHAFT 305
W H POWLESS C E
ALMA - COLORADO