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

224 New Customhouse
Denver 2, Colorado

June 26, 1952

Memorandum

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

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2490, (Lead-Zinc-Copper) The Barnes Mining Co., Valley Forge Group, San Juan County, Colorado

Enclosed are the original and three copies of the final report on DMEA-2490, the original and one copy of Form 3b, and a copy of the letter of denial to the applicant.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 30 1952

Form 3B detached in R. & R - 6/30/52 - B.L.

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

224 New Customhouse
Denver 2, Colorado

June 26, 1952

Mr. Ray C. Barnes
Barnes Mining Co.
Silverton, Colorado

Dear Mr. Barnes:

Reference is made to your application for Government aid in exploration work on the Valley Forge Group.

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

A careful study of your property and data available to this agency reveals that the probability of disclosing mineable reserves by your proposed exploration program is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you that your application for Government aid is denied.

Very truly yours,

W. H. King
W. H. King
Field Team, Region IV

A. H. Koschmann
A. H. Koschmann
Field Team, Region IV

HMC:oc
cc: Actg. Administrator -DMEA
WMTraver
Subject, Chron.
AHKoschmann (2)

Mining Division
Region IV

June 26, 1952

Memorandum

To: Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2490, (Lead-Zinc-Copper) The Barnes Mining Co., Valley Forge Group, San Juan County, Colorado

Enclosed are eight copies of the final engineering report by Scott W. Hazen, Jr. on DMEA Docket 2490.

The examiners concluded that the chances of making a significant discovery on this property are poor. They found evidence that the small amount of ore found above has been bottomed. They recommend that the application be denied.

We concur in this recommendation.

W. H. King
W. H. King

Reviewed by
DMEA OPERATING COMMITTEE

7-7-52
(date)

Mining Division
Date Rec'd.

JUN 13 1952

BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
June 13, 1952

Memorandum

To: Acting Chief, Mining Division, Region IV

From: Chief, Colorado Branch, Mining Division, Region IV

Subject: DMEA 2490, Barnes Mining Company (Valley Forge group), San Juan County, Colorado

Please find enclosed the required number of copies of the "Summary, Conclusions, and Recommendations" on the above docket, by D. R. MacLaren and Scott W. Hasen, Jr., and of Hasen's engineering report. The brochure supplied by the Region IV Field Team with their instructions to make a field examination is also returned herewith.

The Valley Forge vein on which the applicant requests Defense Minerals Exploration Administration assistance is developed by 189 feet of drifting in a lower adit where, in the breast, it shows a maximum width of 12 inches. The vein has sporadic light lead-zinc-copper mineralization. A small ore shoot mined at a higher elevation with a production of only about 6 tons of sorted ore is on a paralleling vein. Thus, the proposed exploration would not serve to reach the intended objective--the downward extension of the mined ore shoot. There is no reason geologically to expect the surface ore shoot to extend to depth and there is evidence that it has probably been bottomed. Likewise, there is no indication that drifting on the vein exposed in the lower adit would result in the discovery of other substantial ore shoots or significant changes in the character of the vein.

I concur with Hasen's recommendation that the loan request for $20,400.00 be denied.

W. M. Traver, Jr.

W. M. Traver, Jr.

enclosures
WMT/dd
cc 8
DMEA 2490
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

June 25, 1952

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2490, The Barnes Mining Company, Valley Forge Claims, Silverton, San Juan County, Colorado

Attached are 8 copies of the geologic report by Donald R. MacLaren covering DMEA Docket 2490--The Barnes Mining Company, Silverton, San Juan County, Colorado.

The applicant proposes to drift 400 feet on the Valley Forge vein. Examination has shown that this vein is a narrow, low grade vein between tight walls showing little or no alteration, and MacLaren concluded that the chances of making a significant discovery on this property are poor, and, therefore, recommends that this application for an exploration loan be denied.

I concur in this recommendation.

A. H. Koschmann

A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (8)

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 2490, Barnes Mining Company

The Valley Forge Group

San Juan County, Colorado

Lead-Zinc-Copper

D. R. MacLaren, Geologist
U. S. Geological Survey

Scott W. Hazen, Jr., Mining Engineer
Bureau of Mines

June 11, 1952

DMEA 2490

BARNES MINING COMPANY
THE VALLEY FORGE GROUP
SAN JUAN COUNTY, COLORADO

Summary, Conclusions, and Recommendations

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

and

Scott W. Hazen, Jr.
Mining Engineer
Bureau of Mines

DMEA 2490

BARNES MINING COMPANY
THE VALLEY FORGE GROUP
SAN JUAN COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By D. R. MacLaren and Scott W. Hazen, Jr.

The applicant, Ray C. Barnes, operator of the Barnes Mining Company, has applied for an exploration loan of $20,400.00 (docket no. DMEA 2490) to drive 400 feet of drift on the Valley Forge claim, San Juan County, Colo. The objective of the drifting is to explore for the downward extension of a small ore shoot exposed at surface above the lower adit. A field examination was made on May 16, 1952.

The examination revealed that the small ore shoot was mined out and bottomed after a production of about 6 tons of hand-sorted ore. It was located on a narrow parallel vein about 100 feet west of the Valley Forge vein. As exposed in the 189-foot lower adit, the Valley Forge vein reaches a maximum width of 12 inches at the face of the adit but narrows to a few inches in width at other points. The vein does contain minor amounts of lead-zinc-copper mineralization but the vein width varies within short distances and so it precludes assigning any ore reserves.

The drifting as proposed would not reach the intended objective unless crosscutting was included to reach the parallel vein under the ore shoot. There is no geologic

evidence to indicate the small ore shoot will continue to depth; and there is also no indication for favorable locations of any larger ore shoots or that the veins will change in character.

The proposal is recommended for denial.

THE BARNES MINING COMPANY

VALLEY FORGE CLAIMS

SILVERTON, SAN JUAN COUNTY, COLORADO

DMEA DOCKET 2490

Geologic Report

By Donald R. MacLaren
U. S. Geological Survey

THE BARNES MINING COMPANY
SILVERTON, SAN JUAN COUNTY, COLORADO

INTRODUCTION

Mr. Roy C. Barnes, operator of the Barnes Mining Company of Silverton, Colorado, has applied to the Defense Minerals Exploration Administration for assistance in a program to explore the Valley Forge Group of claims for lead, zinc, and copper. The Valley Forge Group, consisting of three patented claims, is in sec. 10, T. 41 N., R. 7 W., New Mexico Principal Meridian, San Juan County, Colorado. Mr. Barnes, as lessee, proposes to extend the present 185 foot drift on the Valley Forge vein approximately 400 feet to explore the downward extension of ore exposed in two surface pits. He estimates that the project will cost $20,400; the Government's share will be $10,200.

An examination of the property has disclosed that the surface exposures referred to in the application are on a structure paralleling the Valley Forge vein; that they were small pockets from which the ore has been mined out; and that the Valley Forge is a narrow, low grade vein between tight walls showing little or no alteration.

It is concluded that the chances of making a significant discovery on this property are poor, and it is recommended that the application be denied.

GEOLOGY

The general geology of this area has been described by W. S. Burbank (1933). A series of Tertiary volcanic breccias and flows overlie

Paleozoic sediments and pre-Cambrian granites and gneisses. The major structural feature is the Animas Valley fault system. In a zone varying from 1 to 2 miles wide, a series of step faults, all steeply dipping northward, swing in a wide arc from the vicinity of Silverton, where they strike N. 60° E., to the west of Eureka, where they strike about due north. The fault zone forms the southern boundary of a roughly circular block, 10 miles in diameter, that has been down faulted as much as 2,300 feet. All the known mines of the Animas District are along mineralized faults that radiate from the south side of the Animas zone more or less like the spokes of a wheel. These faults were probably caused by compensating forces, activated during the subsidance of the central block. Within the downfaulted block, considerable prospecting has uncovered only narrow, tight veins, none of which have been economically productive. The narrowness and tightness of these veins is probably due to the setting up, at the time of the subsidance, of highly compressive forces that would tend to close any breaks or shears as fast as they occurred.

The Valley Forge claims (fig. 2) are in an area of Burns latite. It is a light gray to greenish rock, probably representative of the fluidal facies described by Burbank. It has been cut by two nearly parallel faults that strike N. 10° E., to N. 15° E., and dip 80° to 85° to the west. At the portal of the Valley Forge tunnel they are about 150 feet apart.

The Valley Forge tunnel follows a mineralized fault for 189 feet. The vein, from 2 to 12 inches wide, strikes N. 15° W. and dips 85° W. It contains sphalerite, galena, and small amounts of chalcopyrite in a

gangue of quartz and clay gouge. The walls are generally firm and show little alteration. One sample, taken by the examiners, across the face of the drift assayed:

oz. Au	oz. Ag	% Pb	% Zn	% Cu
0.015	0.50	2.60	3.90	0.20

This checks rather well two assays submitted by the applicant that were:

oz. Au	oz. Ag	% Pb	% Zn	% Cu
0.42	0.88	2.10	3.52	0.25
0.10	0.70	1.55	2.38	0.25

On a nearly parallel fault about 150 feet west of the Valley Forge, two pits and a location shaft expose a similar vein. The shaft was inaccessible, but the pits appear to have been on small pockets of ore which are completely mined. Although the original size of the pockets could not be determined, the 5.9 tons of ore delivered to the Shenandoah-Dives mill (mill return sheet with application) are said to have come from the larger pit. The vein now showing in the pit wall is 2 to 6 inches wide. The smaller pit is now completely filled with debris, but from its size, it is doubtful that any ore was shipped from it.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the Valley Forge vein is developed along a tight fault and is not likely to form ore in significant amounts; that the ore exposed above the level of the Valley Forge tunnel was in one or possibly two small pockets on a parallel vein, the largest containing only 6 tons of mineable ore; and that this is a poor prospect.

It is recommended that this application be denied.

REFERENCE

Burbank, W. S., Vein systems of the Arrastre Basin and regional geologic structure in the Silverton and Telluride quadrangles, Colorado: Colorado Sci. Soc. Proc., vol. 13, no. 5, 1933.

DMEA 2490

BARNES MINING COMPANY
THE VALLEY FORGE GROUP
SAN JUAN COUNTY, COLORADO

Engineering Report

By Scott W. Hazen, Jr.
Mining Engineer
Bureau of Mines

DMEA 2490

BARNES MINING COMPANY
THE VALLEY FORGE GROUP
SAN JUAN COUNTY, COLORADO

CONTENTS

Engineering Report — Page

Introduction 1
Acknowledgments 1
Location, topography, and climate 1
History and production 2
Ownership and extent 3
Description of the deposits 3
Mineable ore reserves 4
Present status 5
  Exploration and development 5
  Mine and mill facilities and equipment 5
Proposed exploration 7
Estimated cost of the project 7
Conclusions 10
Recommendations 10

ILLUSTRATIONS

Figure — Follows Page

1. Location map, Valley Forge mine, San Juan County, Colorado 2
2. Valley Forge mine, San Juan County, Colorado 4

DMEA 2490

BARNES MINING COMPANY
THE VALLEY FORGE GROUP
SAN JUAN COUNTY, COLORADO

ENGINEERING REPORT

By

Scott W. Hazen, Jr.

Ray C. Barnes, operator of the Barnes Mining Company, Silverton, Colo., has applied for a Defense Minerals Exploration Administration loan of $20,400.00 to perform 400 feet of drifting on the Valley Forge claim to explore for the downward extension of an ore shoot exposed by surface workings.

A field examination of the surface exposures and the mine workings on the Valley Forge claim was made on May 16, 1952, by an examining team of the Defense Materials Exploration Administration.

ACKNOWLEDGMENTS

Ray C. Barnes accompanied the examining team and his assistance and the information he made available on the property is acknowledged.

LOCATION, TOPOGRAPHY, AND CLIMATE

The Valley Forge claim is in sec. 10, unsurveyed, T. 41 N., R. 7 W., N. M. P. M., and is located on an east-west vein which cuts across the valley of the Animas River about 2 miles north of Silverton, San Juan County, Colo. (fig. 1). The

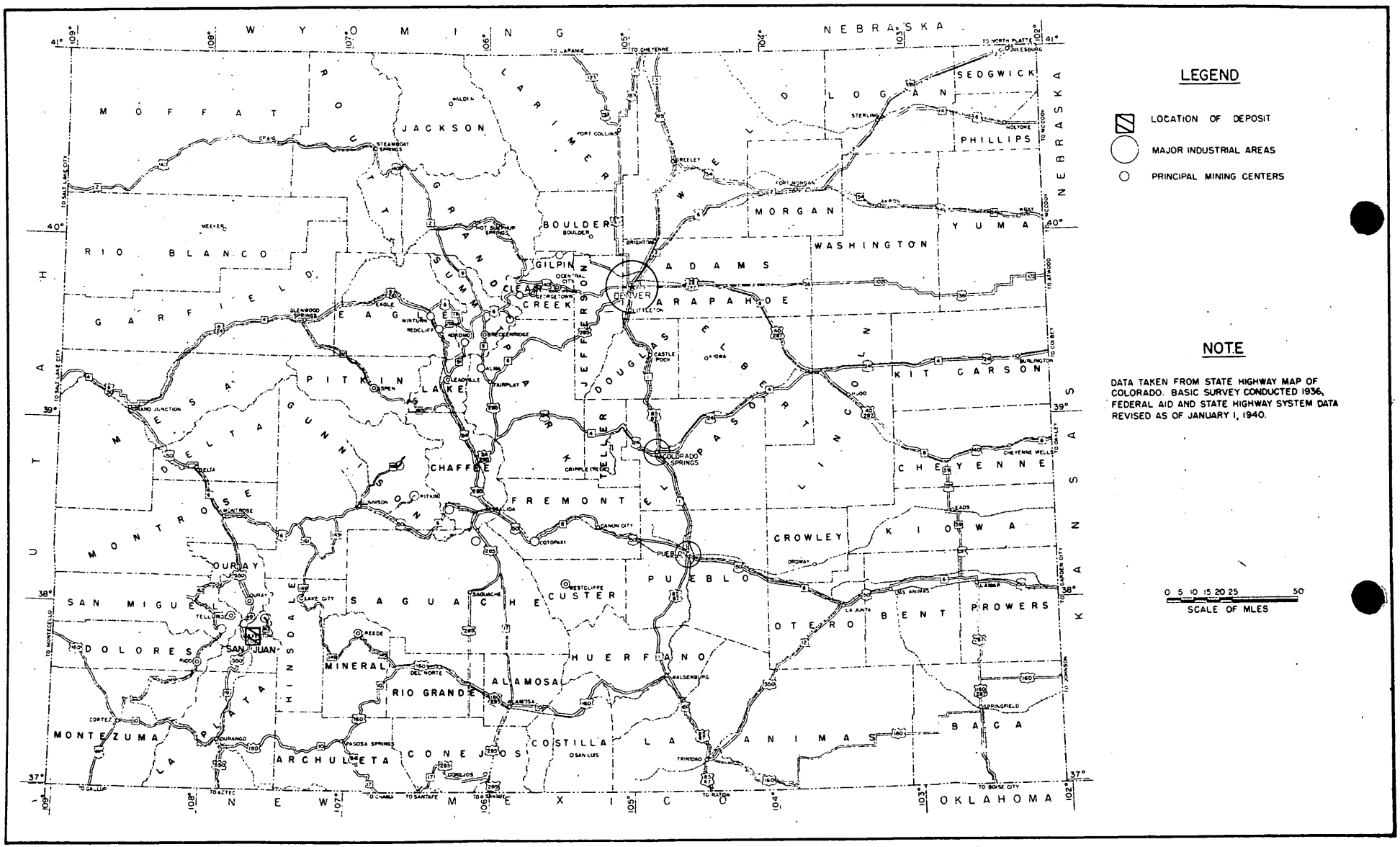


Figure 1 Location Map, Valley Forge Mine, San Juan County, Colorado DMEA-2490

lowest mine working, consisting of an 189-foot adit on the vein, is on the west side near the bottom of the valley only a few hundred feet from the Shenandoah-Dives Mining Company mill.

The Animas Valley is narrow and the valley walls steep. The winters are long and severe with heavy snowfall. Snowslides prevent access to most of the mines in the area from January to April. The Valley Forge, located at an approximate elevation of 9,800 feet and only 1/4 mile from Colorado State Highway 110, is advantageously situated. All-year operations could be maintained with only an occasional small snowslide interrupting work for a short period during the most severe winters.

HISTORY AND PRODUCTION

The Valley Forge claim, patent number 653, is one of the early patents in the district; however, little work has been done since the early days. The Valley Forge Extension and the Aurora claims are patented but at a more recent date. These two claims cover veins where they cross the floor of the Animas Valley and along the east side of the valley.

Little is known of the early history of the property. The mine workings are small and the only recorded production came from a small ore shoot exposed at surface on a parallel vein lying west of the Valley Forge vein. In 1939, the Wilbur Maxwell lease, a hand-mining operation, packed out about 6 tons of ore which were sold to the Shenandoah-Dives mill.

The settlement assays giving the per ton averages were 0.185 ounce gold and 8.2 ounces silver per ton, 22.1 percent lead, 17.0 percent zinc, and 2.0 percent copper. An inspection of the mine openings showed that the small ore body had been bottomed and it had practically pinched out in the face of the workings. The ore shipped was obviously carefully hand sorted as evidenced by lower-grade ore remaining on the dump. The ore body was small and the ore in the shoot probably never reached a width of more than 2 feet.

Some other work has been done several hundred feet higher in the cliffs but this was considerably beyond the objective of the exploration requested and was on the westerly vein.

OWNERSHIP AND EXTENT

Ray C. Barnes, operator of the Barnes Mining Company, has a lease and option on the property consisting of three claims--Valley Forge No. 653, Valley Forge Extension No. 18434, and Aurora No. 18434--located in sec. 10, unsurveyed, T. 41 N., R. 7 W., N. M. P. M. The application notes that a copy of the lease was attached but it was not included with the brochure sent to the field.

DESCRIPTION OF THE DEPOSITS

The Valley Forge claim lies on the west side of the Animas Valley and is on the downfaulted central area of the Silverton caldera. At the lower adit, where Barnes contemplates doing the drifting, the wall rock is latite. The vein strikes east-west and dips a few degrees to the north. The vein varies

from a few inches to 12 inches in width. Quartz makes up most of the vein, with lead, zinc, and copper sulfides being found in varying amounts. The vein is 12 inches wide at the face of the 189-foot adit and can be traced on surface and lies about 100 feet to the east of the upper working, from which the ore shipment was made. A sample of the 12-inch vein at the face of the adit assayed 0.015 ounce gold and 0.5 ounce silver per ton, 2.6 percent lead, 2.9 percent zinc, and 0.2 percent copper.

The westerly or parallel vein strikes east-west and is practically vertical. It was exposed at surface where the small ore shoot had been mined out in the Maxwell open-cut and stope. The vein is chiefly quartz with varying amounts of lead, zinc, and copper sulfides and the wall rock is latite. The width of the vein varies from a few inches to a maximum of perhaps 3 feet where the ore shoot was found. The ore body was small and the ore in the shoot probably never reached a width of more than 2 feet. There are a few cross fractures intersecting the main vein at a shallow angle and these may have influenced the formation of the small ore shoot. Some evidence was found on surface to indicate these cross fractures continue to the east and probably intersect the vein on which the lower adit was driven. These features are all shown on figure 2.

MINEABLE ORE RESERVES

Although the vein at the face of the lower tunnel is 12 inches wide and contains lead, zinc, and copper sulfides, the vein width varies within short distances and precludes assigning

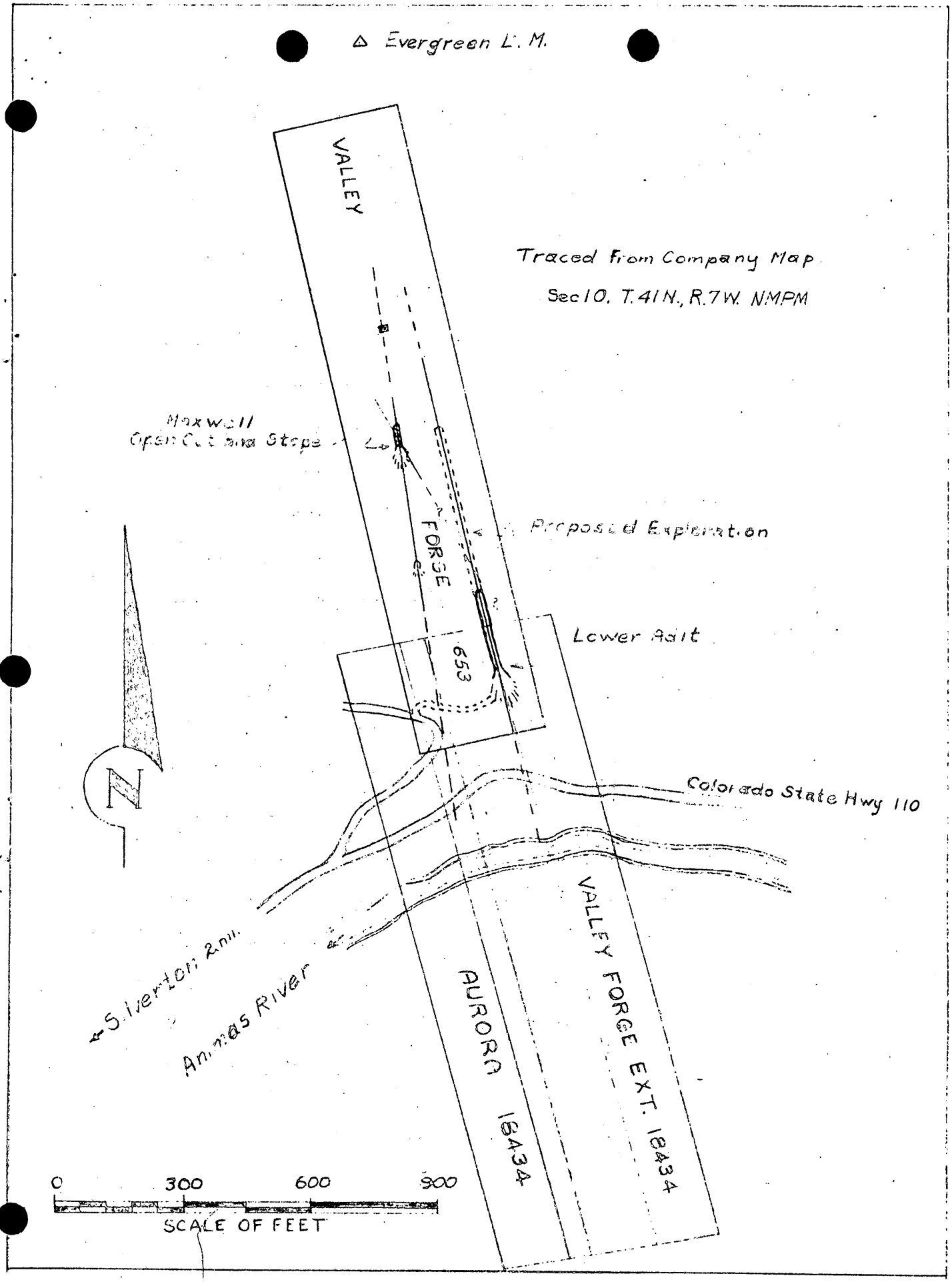


Fig 2 Valley Forge Mine, San Juan Co., Colo. DMEA-2490

ore reserves of any classification.

The surface workings on the west parallel vein have already proven the limits of the small ore body mined there. The amount of work performed and the geologic evidence available will not permit the calculation of any type of ore reserves on this vein also.

PRESENT STATUS

Exploration and Development

Barnes had rehabilitated the lower adit and had driven it ahead a short distance to 189 feet before he discontinued operations for the winter months. This is the only working on the vein except for one small surface pit about 50 feet above the portal.

The upper working, where the ore was mined, was probably a short 40-foot adit which has been stoped out the few feet to surface, leaving a narrow open-cut about 20 feet deep at the face.

Mine and Mill Facilities and Equipment

The surface plant at the lower adit consists of a shed to protect the compressor from the weather and a small ore bin which has been patched together from odd pieces of timber.

A road, which is usable for exploration purposes, branches from the Shenandoah-Dives mill road to the ore bin at the lower adit but the road does not reach the adit portal.

There is no mill on the property and any production would

have to be sold to a custom mill, probably the Shenandoah-Dives as it is only a few hundred feet away.

The adit is equipped with a 20-pound track, and 2-inch air line. The 1-inch water line will have to be replaced from the source, a creek about 200 feet from the portal. Barnes has the following equipment:

		Owner's valuation
1	210 c.f.m., Ingersoll-Rand portable compressor, mounted on rubber tires, 4 wheels, gasoline-powered, used but in good condition	$3,250.00
1	1951 Willys Universal jeep, used, good condition	1,500.00
1	Delco light plant, complete with batteries, used	450.00
1	Bench vise - pipe vise	23.00
1	Welding outfit, used	87.50
1	Grinder and DC motor, used	89.00
1	Chicago-Pnuematic 3-inch drifter, complete with column (manual), used	350.00
1	Ingersoll-Rand drifter, complete with column (manual), used	400.00
2	30-gallon water pressure tanks, used	90.00
1	Ore car, 1-ton, used	100.00
1	250-foot air hose, 1-inch, used	200.00
1	50-foot air hose, 3/4-inch, used	30.00
1	50-foot water hose, 1/2-inch, used	25.00
	Owner's total valuation	$6,594.50

In addition, Barnes has the following equipment which would not be applicable to the work on a depreciation basis:

1 Gardner-Denver jackhammer, used	$150.00
1 Ingersoll-Rand stoper, used	200.00
200 feet of miscellaneous rail, 20-pound	70.00
200 feet of assorted pipe	120.00
	$540.00

PROPOSED EXPLORATION

Barnes has proposed an exploration project of drifting ahead 400 feet on the vein from the face of the lower adit. This was intended to reach a point under the ore shoot previously mined and test the possibility of a downward extension of the ore body. Extending the lower adit on the vein would result in the drift's being about 100 feet east of the small ore shoot which was mined on a parallel vein. The proposal would fail to reach its intended objective unless crosscutting was included.

ESTIMATED COST OF THE PROJECT

The applicant has estimated the 400 feet of drifting will require 18 weeks and cost $20,400.00 or $51.00 per foot. This cost is high but is in line with costs of similar work on some operations although other costs are only around $35.00. per foot, depending on the quality of labor and management.

The estimated time for completion is about correct, based on performance on other drifting operations in the area.

A summary of the examining team's costs for 4-1/2 months' work is outlined as follows:

1. Fixtures and improvements

   None

2. Operating equipment

   (a) Purchased

   None

(b) Rented	Per month	
1 Mucking machine	$ 230.00	
1 Ventilation fan	50.00	
5 Mine cars	50.00	
1 Used air receiver	30.00	
	$ 360.00	
4-1/2 months		$1,620.00

(c) Furnished by operator		
As listed on page 6 (owner's valuation)	$6,594.00	
Depreciation value, per month	110.00	
4-1/2 months		495.00

3. Rehabilitation and repairs

   None

4. Labor

2 Miners, contract - $13.00 per foot of advance 400 feet at $13.00	$5,200.00	
1 Trammer at $1.50 per hour, 40-hour week base plus 1-1/2 time for overtime, 6-day week $78.00 per week, 18 weeks	$1,404.00	$6,604.00

5. Supervision

1 Supervisor-Topman at $400.00 per month		
4-1/2 months		$1,800.00
1 Accountant, part time, at $25.00 per month		
5 months		125.00

6. Supplies

Timber, estimate	$ 75.00	
Explosives $2.50 per foot, 400 feet	1,000.00	
Repair parts, estimate	150.00	
Other		
Gasoline, oil for compressor $150.00 per month, 4-1/2 months	675.00	
Track, 20-pound, $1.00 per foot	400.00	
Pipe, 2-inch air, 1-inch water, $1.00 per foot	400.00	
Drill steel bits, $1.00 per foot	400.00	
Vent tube, 600 feet, $1.00 per foot	600.00	
		$3,700.00

7. Power

None

8. Transportation

Freight, pipe, rail, mucking machine, etc., estimate		400.00

9. Insurance

Workmen's compensation	$ 100.00	
Social security	50.00	150.00

10. Other

Assaying		100.00
	Total cost	$14,994.00
	Rounded to	$15,000.00

Average cost per foot $37.50

CONCLUSIONS

The proposal of the applicant will not reach the objective desired unless crosscutting is included to reach the west parallel vein. The ore body which was exposed and worked at surface on this parallel vein has been mined out and there is no evidence to indicate more ore at depth. The vein upon which the 189 feet of adit have been driven varies in width from a few inches to a maximum of 12 inches. Lead-zinc-copper mineralization is not present in sufficient quantity to be commercial. The vein was traced along the surface of the steep valley side through a vertical range of 500 feet and a horizontal distance of 800 feet. It did not widen appreciably or appear to change in mineral content. Except for a possible crossing by a fracture zone which might have formed a very small ore body, there is little geologic evidence to indicate the vein will change in character or that ore will be found in commercial grade or amount.

RECOMMENDATIONS

The proposal is recommended for denial, based on the following points:

1. The narrow width of the vein and sparse lead-zinc-copper mineralization as already exposed in the 189-foot lower adit.

2. The proposed drifting will not reach the intended objectives.

3. The bottom of the small ore shoot mined on the parallel vein has already been exposed and there is no expectancy for it to continue in depth.

4. There is no geologic evidence to indicate any favorable locations for larger ore shoots or that the veins will change in character.

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

224 New Customhouse
Denver 2, Colorado

June 26, 1952

Memorandum

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

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2490, (Lead-Zinc-Copper) The Barnes Mining Co., Valley Forge Group, San Juan County, Colorado

Enclosed are the original and three copies of the final report on DMEA-2490, the original and one copy of Form 3b, and a copy of the letter of denial to the applicant.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 30 1952

UNITED STATES
DEPARTMENT OF THE INTERIOR

COPY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

WASHINGTON 25, D. C.

224 New Customhouse
Denver 2, Colorado

June 26, 1952

Mr. Ray C. Barnes
Barnes Mining Co.
Silverton, Colorado

Dear Mr. Barnes:

Reference is made to your application for Government aid in exploration work on the Valley Forge Group.

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

A careful study of your property and data available to this agency reveals that the probability of disclosing mineable reserves by your proposed exploration program is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise you that your application for Government aid is denied.

Very truly yours,

/s/ W. H. King
Field Team, Region IV

/s/ A. H. Koschmann
Field Team, Region IV

HMC:oc
cc: Actg. Administrator-DMEA
WMTraver
Subject, Chron.
AHKoschmann(2)

Mining Division
Region IV

June 26, 1952

Memorandum

To: Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2490, (Lead-Zinc-Copper) The Barnes Mining Co., Valley Forge Group, San Juan County, Colorado

Enclosed are eight copies of the final engineering report by Scott W. Hazen, Jr. on DMEA Docket 2490.

The examiners concluded that the chances of making a significant discovery on this property are poor. They found evidence that the small amount of ore found above has been bottomed. They recommend that the application be denied.

We concur in this recommendation.

W. H. King
W. H. King

Reviewed by
DMEA OPERATING COMMITTEE

7-7-52
(date)

Mining Division
Date Rec'd.
JUN 13 1952
BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
June 13, 1952

Memorandum

To: Acting Chief, Mining Division, Region IV

From: Chief, Colorado Branch, Mining Division, Region IV

Subject: DMEA 2490, Barnes Mining Company (Valley Forge group), San Juan County, Colorado

Please find enclosed the required number of copies of the "Summary, Conclusions, and Recommendations" on the above docket, by D. R. MacLaren and Scott W. Hanna, Jr., and of Hanna's engineering report. The brochure supplied by the Region IV Field Team with their instructions to make a field examination is also returned herewith.

The Valley Forge vein on which the applicant requests Defense Minerals Exploration Administration assistance is developed by 189 feet of drifting in a lower adit where, in the breast, it shows a maximum width of 12 inches. The vein has sporadic light lead-zinc-copper mineralization. A small ore shoot mined at a higher elevation with a production of only about 6 tons of sorted ore is on a paralleling vein. Thus, the proposed exploration would not serve to reach the intended objective—the downward extension of the mined ore shoot. There is no reason geologically to expect the surface ore shoot to extend to depth and there is evidence that it has probably been bottomed. Likewise, there is no indication that drifting on the vein exposed in the lower adit would result in the discovery of other substantial ore shoots or significant changes in the character of the vein.

I concur with Hanna's recommendation that the loan request for $20,400.00 be denied.

W. M. Traver, Jr.

W. M. Traver, Jr.

enclosures
WMT/dd
cc 8
DMEA 2490
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

June 25, 1952

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2490, The Barnes Mining Company, Valley Forge Claims, Silverton, San Juan County, Colorado

Attached are 8 copies of the geologic report by Donald R. Maclaren covering DMEA Docket 2490--The Barnes Mining Company, Silverton, San Juan County, Colorado.

The applicant proposes to drift 400 feet on the Valley Forge vein. Examination has shown that this vein is a narrow, low grade vein between tight walls showing little or no alteration, and Maclaren concluded that the chances of making a significant discovery on this property are poor, and, therefore, recommends that this application for an exploration loan be denied.

I concur in this recommendation.

A. H. Koschmann

A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (8)

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 2492, Barnes Mining Company

The Valley Forge Group

San Juan County, Colorado

Lead-Zinc-Copper

D. R. MacLaren, Geologist
U. S. Geological Survey

Scott W. Mason, Jr., Mining Engineer
Bureau of Mines

June 11, 1952

DMEA 2490

BARNES MINING COMPANY
THE VALLEY FORGE GROUP
SAN JUAN COUNTY, COLORADO

Summary, Conclusions, and Recommendations

By D. R. Maclaren
Geologist
U. S. Geological Survey

and

Scott W. Hazen, Jr.
Mining Engineer
Bureau of Mines

DMEA 2490

BARNES MINING COMPANY
THE VALLEY FORGE GROUP
SAN JUAN COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By D. R. MacLaren and Scott W. Hazen, Jr.

The applicant, Ray C. Barnes, operator of the Barnes Mining Company, has applied for an exploration loan of $20,400.00 (docket no. DMEA 2490) to drive 400 feet of drift on the Valley Forge claim, San Juan County, Colo. The objective of the drifting is to explore for the downward extension of a small ore shoot exposed at surface above the lower adit. A field examination was made on May 16, 1952.

The examination revealed that the small ore shoot was mined out and bottomed after a production of about 6 tons of hand-sorted ore. It was located on a narrow parallel vein about 100 feet west of the Valley Forge vein. As exposed in the 189-foot lower adit, the Valley Forge vein reaches a maximum width of 12 inches at the face of the adit but narrows to a few inches in width at other points. The vein does contain minor amounts of lead-zinc-copper mineralization but the vein width varies within short distances and so it precludes assigning any ore reserves.

The drifting as proposed would not reach the intended objective unless crosscutting was included to reach the parallel vein under the ore shoot. There is no geologic

evidence to indicate the small ore shoot will continue to depth and there is also no indication for favorable locations of any larger ore shoots or that the veins will change in character.

The proposal is recommended for denial.

THE BARNES MINING COMPANY

VALLEY FORGE CLAIMS

SILVERTON, SAN JUAN COUNTY, COLORADO

DMFA DOCKET 2490

Geologic Report

By Donald R. MacLaren
U. S. Geological Survey

THE BARNES MINING COMPANY
SILVERTON, SAN JUAN COUNTY, COLORADO

INTRODUCTION

Mr. Roy C. Barnes, operator of the Barnes Mining Company of Silverton, Colorado, has applied to the Defense Minerals Exploration Administration for assistance in a program to explore the Valley Forge Group of claims for lead, zinc, and copper. The Valley Forge Group, consisting of three patented claims, is in sec. 10, T. 41 N., R. 7 W., New Mexico Principal Meridian, San Juan County, Colorado. Mr. Barnes, as lessee, proposes to extend the present 185 foot drift on the Valley Forge vein approximately 400 feet to explore the downward extension of ore exposed in two surface pits. He estimates that the project will cost $20,400; the Government's share will be $10,200.

An examination of the property has disclosed that the surface exposures referred to in the application are on a structure paralleling the Valley Forge vein; that they were small pockets from which the ore has been mined out; and that the Valley Forge is a narrow, low grade vein between tight walls showing little or no alteration.

It is concluded that the chances of making a significant discovery on this property are poor, and it is recommended that the application be denied.

GEOLOGY

The general geology of this area has been described by W. S. Burbank (1935). A series of Tertiary volcanic breccias and flows overlie

Paleozoic sediments and pre-Cambrian granites and gneisses. The major structural feature is the Animas Valley fault system. In a zone varying from 1 to 2 miles wide, a series of step faults, all steeply dipping northward, swing in a wide arc from the vicinity of Silverton, where they strike N. 60° E., to the west of Eureka, where they strike about due north. The fault zone forms the southern boundary of a roughly circular block, 10 miles in diameter, that has been down faulted as much as 2,500 feet. All the known mines of the Animas District are along mineralized faults that radiate from the south side of the Animas zone more or less like the spokes of a wheel. These faults were probably caused by compensating forces, activated during the subsidence of the central block. Within the downfaulted block, considerable prospecting has uncovered only narrow, tight veins, none of which have been economically productive. The narrowness and tightness of these veins is probably due to the setting up, at the time of the subsidence, of highly compressive forces that would tend to close any breaks or shears as fast as they occurred.

The Valley Forge claims (fig. 2) are in an area of Burns latite. It is a light gray to greenish rock, probably representative of the fluidal facies described by Burbank. It has been cut by two nearly parallel faults that strike N. 10° E., to N. 15° E., and dip 80° to 85° to the west. At the portal of the Valley Forge tunnel they are about 150 feet apart.

The Valley Forge tunnel follows a mineralized fault for 189 feet. The vein, from 2 to 12 inches wide, strikes N. 15° W. and dips 85° W. It contains sphalerite, galena, and small amounts of chalcopyrite in a

gangue of quartz and clay gouge. The walls are generally firm and show little alteration. One sample, taken by the examiners, across the face of the drift assayed:

oz. Au	oz. Ag	% Pb	% Zn	% Cu
0.015	0.50	2.60	3.90	0.20

This checks rather well two assays submitted by the applicant that were:

oz. Au	oz. Ag	% Pb	% Zn	% Cu
0.42	0.88	2.10	3.52	0.25
0.10	0.70	1.55	2.38	0.25

On a nearly parallel fault about 150 feet west of the Valley Forge, two pits and a location shaft expose a similar vein. The shaft was inaccessible, but the pits appear to have been on small pockets of ore which are completely mined. Although the original size of the pockets could not be determined, the 5.9 tons of ore delivered to the Shenandoah-Dives mill (mill return sheet with application) are said to have come from the larger pit. The vein now showing in the pit wall is 2 to 6 inches wide. The smaller pit is now completely filled with debris, but from its size, it is doubtful that any ore was shipped from it.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the Valley Forge vein is developed along a tight fault and is not likely to form ore in significant amounts; that the ore exposed above the level of the Valley Forge tunnel was in one or possibly two small pockets on a parallel vein, the largest containing only 6 tons of mineable ore; and that this is a poor prospect.

It is recommended that this application be denied.

REFERENCE

Burbank, W. S., Vein systems of the Arrastre Basin and regional geologic structure in the Silverton and Telluride quadrangles, Colorado: Colorado Sci. Soc. Proc., vol. 13, no. 5, 1935.

DMEA 2490

BARNES MINING COMPANY
THE VALLEY FORGE GROUP
SAN JUAN COUNTY, COLORADO

Engineering Report

By Scott W. Hazen, Jr.
Mining Engineer
Bureau of Mines

DMEA 2490

BARNES MINING COMPANY
THE VALLEY FORGE GROUP
SAN JUAN COUNTY, COLORADO

CONTENTS

Engineering Report	Page
Introduction	1
Acknowledgments	1
Location, topography, and climate	1
History and production	2
Ownership and extent	3
Description of the deposits	3
Mineable ore reserves	4
Present status	5
Exploration and development	5
Mine and mill facilities and equipment	5
Proposed exploration	7
Estimated cost of the project	7
Conclusions	10
Recommendations	10

ILLUSTRATIONS

Figure	Follows Page
1. Location map, Valley Forge mine, San Juan County, Colorado	2
2. Valley Forge mine, San Juan County, Colorado	4

DMEA 2490

BARNES MINING COMPANY
THE VALLEY FORGE GROUP
SAN JUAN COUNTY, COLORADO

ENGINEERING REPORT

By

Scott W. Hazen, Jr.

Ray C. Barnes, operator of the Barnes Mining Company, Silverton, Colo., has applied for a Defense Minerals Exploration Administration loan of $20,400.00 to perform 400 feet of drifting on the Valley Forge claim to explore for the downward extension of an ore shoot exposed by surface workings.

A field examination of the surface exposures and the mine workings on the Valley Forge claim was made on May 16, 1952, by an examining team of the Defense Materials Exploration Administration.

ACKNOWLEDGMENTS

Ray C. Barnes accompanied the examining team and his assistance and the information he made available on the property is acknowledged.

LOCATION, TOPOGRAPHY, AND CLIMATE

The Valley Forge claim is in sec. 10, unsurveyed, T. 41 N., R. 3 W., N. M. P. M., and is located on an east-west vein which cuts across the valley of the Animas River about 2 miles north of Silverton, San Juan County, Colo. (fig. 1). The

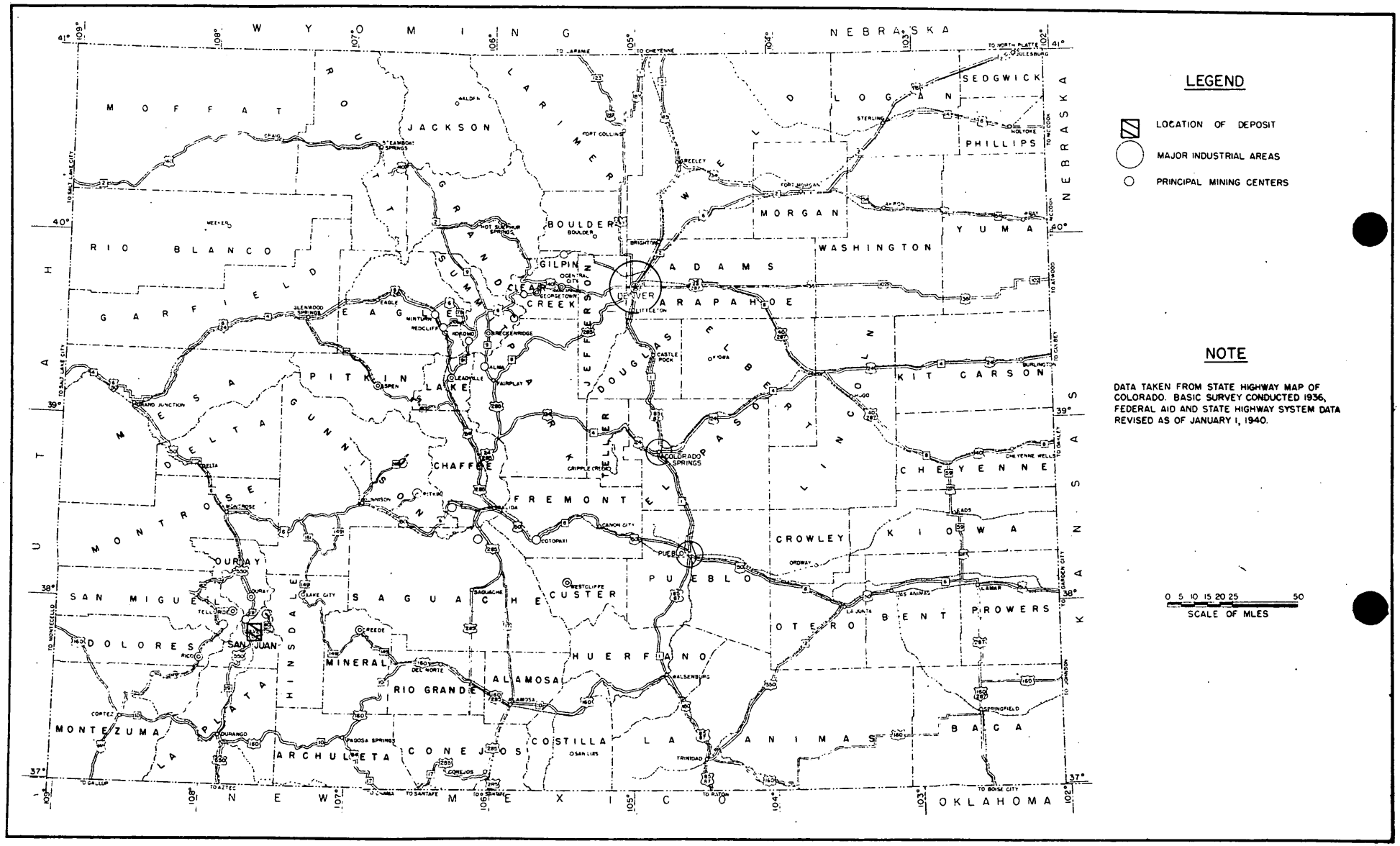


Figure 1 Location Map, Valley Forge Mine, San Juan County, Colorado DMEA-2490

lowest mine working, consisting of an 189-foot adit on the vein, is on the west side near the bottom of the valley only a few hundred feet from the Shenandoah-Dives Mining Company mill.

The Animas Valley is narrow and the valley walls steep. The winters are long and severe with heavy snowfall. Snow slides prevent access to most of the mines in the area from January to April. The Valley Forge, located at an approximate elevation of 9,800 feet and only 1/4 mile from Colorado State Highway 110, is advantageously situated. All-year operations could be maintained with only an occasional small snowslide interrupting work for a short period during the most severe winters.

HISTORY AND PRODUCTION

The Valley Forge claim, patent number 633, is one of the early patents in the district; however, little work has been done since the early days. The Valley Forge Extension and the Aurora claims are patented but at a more recent date. These two claims cover veins where they cross the floor of the Animas Valley and along the east side of the valley.

Little is known of the early history of the property. The mine workings are small and the only recorded production came from a small ore shoot exposed at surface on a parallel vein lying west of the Valley Forge vein. In 1939, the Wilbur Maxwell lessee, a hand-mining operation, pushed out about 6 tons of ore which were sold to the Shenandoah-Dives mill.

The settlement assays giving the per ton averages were 0.185 ounce gold and 8.2 ounces silver per ton, 22.1 percent lead, 17.0 percent zinc, and 2.0 percent copper. An inspection of the mine openings showed that the small ore body had been bottomed and it had practically pinched out in the face of the workings. The ore shipped was obviously carefully hand sorted as evidenced by lower-grade ore remaining on the dump. The ore body was small and the ore in the shoot probably never reached a width of more than 2 feet.

Some other work has been done several hundred feet higher in the cliffs but this was considerably beyond the objective of the exploration requested and was on the westerly vein.

OWNERSHIP AND EXTENT

Roy C. Barnes, operator of the Barnes Mining Company, has a lease and option on the property consisting of three claims--Valley Forge No. 633, Valley Forge Extension No. 18434, and Aurora No. 18434--located in sec. 10, unsurveyed, T. 41 N., R. 7 W., N. M. P. M. The application notes that a copy of the lease was attached but it was not included with the brochure sent to the field.

DESCRIPTION OF THE DEPOSITS

The Valley Forge claim lies on the west side of the Animas Valley and is on the downfaulted central area of the Silverton caldera. At the lower adit, where Barnes contemplates doing the drifting, the wall rock is latite. The vein strikes east west and dips a few degrees to the north. The vein varies

from a few inches to 12 inches in width. Quartz makes up most of the vein, with lead, zinc, and copper sulfides being found in varying amounts. The vein is 12 inches wide at the face of the 189-foot adit and can be traced on surface and lies about 100 feet to the east of the upper working from which the ore shipment was made. A sample of the 12-inch vein at the face of the adit assayed 0.015 ounce gold and 0.5 ounce silver per ton, 2.6 percent lead, 2.9 percent zinc, and 0.2 percent copper.

The westerly or parallel vein strikes east-west and is practically vertical. It was exposed at surface where the small ore shoot had been mined out in the Maxwell open cut and stope. The vein is chiefly quartz with varying amounts of lead, zinc, and copper sulfides and the wall rock is latite. The width of the vein varies from a few inches to a maximum of perhaps 3 feet where the ore shoot was found. The ore body was small and the ore in the shoot probably never reached a width of more than 2 feet. There are a few cross fractures intersecting the main vein at a shallow angle and these may have influenced the formation of the small ore shoot. Some evidence was found on surface to indicate these cross fractures continue to the east and probably intersect the vein on which the lower adit was driven. These features are all shown on figure 2.

MINEABLE ORE RESERVES

Although the vein at the face of the lower tunnel is 12 inches wide and contains lead, zinc, and copper sulfides, the vein width varies within short distances and precludes assigning

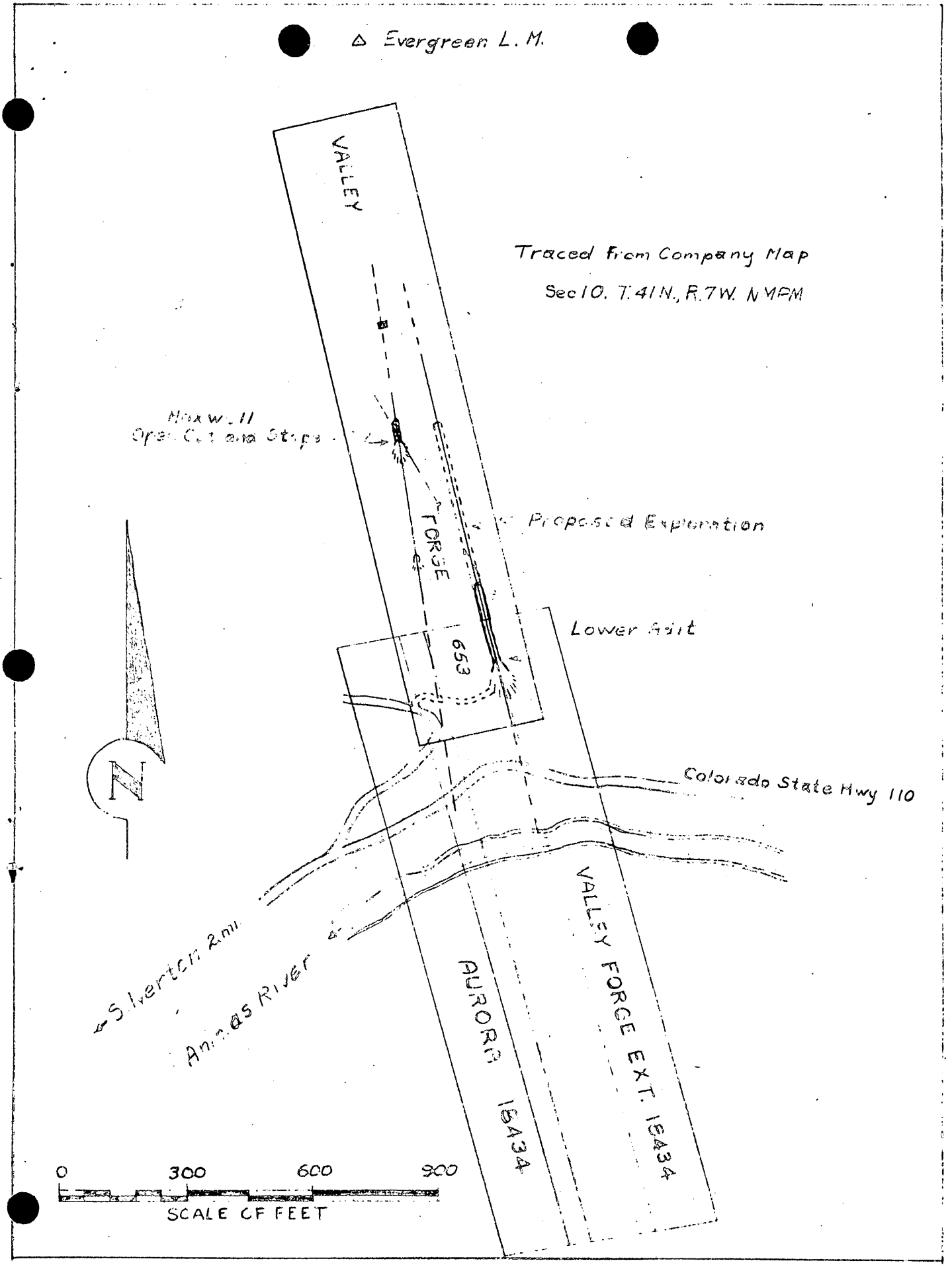


Fig 2 Valley Forge Mine, San Juan Co., Colo. DMEA.-2490

ore reserves of any classification.

The surface workings on the west parallel vein have already proven the limits of the small ore body mined there. The amount of work performed and the geologic evidence available will not permit the calculation of any type of ore reserves on this vein also.

PRESENT STATUS

Exploration and Development

Barnes had rehabilitated the lower adit and had driven it ahead a short distance to 189 feet before he discontinued operations for the winter months. This is the only working on the vein except for one small surface pit about 50 feet above the portal.

The upper working, where the ore was mined, was probably a short 40 foot adit which has been stoped out the few feet to surface, leaving a narrow open cut about 20 feet deep at the face.

Mine and Mill Facilities and Equipment

The surface plant at the lower adit consists of a shed to protect the compressor from the weather and a small ore bin which has been patched together from odd pieces of timber.

A road, which is usable for exploration purposes, branches from the Shenandoah-Dives mill road to the ore bin at the lower adit but the road does not reach the adit portal.

There is no mill on the property and any production would

have to be sold to a custom mill, probably the Shenandoah Dives as it is only a few hundred feet away.

The adit is equipped with a 20-pound track and 2-inch air line. The 1-inch water line will have to be replaced from the source, a creek about 200 feet from the portal. Barnes has the following equipment:

		Owner's valuation
1	210 c.f.m., Ingersoll-Rand portable compressor, mounted on rubber tires, 4 wheels, gasoline-powered, used but in good condition	$3,250.00
1	1951 Willys Universal jeep, used, good condition	1,500.00
1	Delco light plant, complete with batteries, used	450.00
1	Smith vise - pipe vise	25.00
1	Welding outfit, used	27.50
1	Grinder and DC motor, used	59.00
1	Chicago-Pneumatic 3-inch drifter, complete with column (manual), used	3,380.00
1	Ingersoll-Rand drifter, complete with column (manual), used	400.00
2	30-gallon water pressure tanks, used	30.00
1	Ore car, 1 ton, used	100.00
1	250 foot air hose, 1-inch, used	200.00
1	50-foot air hose, 3/4-inch, used	30.00
1	50-foot water hose, 1/2-inch, used	25.00
	Owner's total valuation	$6,584.50

In addition, Barnes has the following equipment which would not be applicable to the work on a depreciation basis:

1 Gardner-Denver jackhammer, used	$150.00
1 Ingersoll-Rand stoper, used	200.00
200 feet of miscellaneous rail, 20-pound	70.00
200 feet of assorted pipe	120.00
	$540.00

PROPOSED EXPLORATION

Barnes has proposed an exploration project of drifting ahead 400 feet on the vein from the face of the lower adit. This was intended to reach a point under the ore shoot previously mined and test the possibility of a downward extension of the ore body. Extending the lower adit on the vein would result in the drift's being about 100 feet east of the small ore shoot which was mined on a parallel vein. The proposal would fail to reach its intended objective unless crosscutting was included.

ESTIMATED COST OF THE PROJECT

The applicant has estimated the 400 feet of drifting will require 18 weeks and cost $20,400.00 or $51.00 per foot. This cost is high but is in line with costs of similar work on some operations although other costs are only around $35.00 per foot, depending on the quality of labor and management.

The estimated time for completion is about correct, based on performance on other drifting operations in the area.

A summary of the examining team's costs for 4 1/2 months' work is outlined as follows:

1. Fixtures and improvements

   None

2. Operating equipment

   (a) Purchased

   None

   (b) Rented

	Per month	
1 Shaking machine	$ 230.00	
1 Ventilation fan	50.00	
5 Mine cars	50.00	
1 Used Air receiver	30.00	
	$ 360.00	
4 1/2 months		$1,620.00

   (c) Furnished by operator

As listed on page 6 (owner's valuation)	$6,594.00	
Depreciation value, per month	110.00	
4 1/2 months		495.00

3. Rehabilitation and repairs

   None

4. Labor

2 Miners, contract $13.00 per foot of advance 400 feet at $13.00	$5,200.00	
1 Trammer at $1.50 per hour, 40 hour week base plus 1 1/2 time for overtime, 6-day week $78.00 per week, 18 weeks	$1,404.00	$6,604.00

5. Supervision

1 Supervisor-Topman at $400.00 per month		
4-1/2 months		$1,800.00
1 Accountant, part time, at $25.00 per month		
5 months		125.00

6. Supplies

Timber, estimate	$ 75.00	
Explosives $2.50 per foot, 400 feet	1,000.00	
Repair parts, estimate	150.00	
Other		
Gasoline, oil for compressor $150.00 per month, 4 1/2 months	675.00	
Track, 20 pound, $1.00 per foot	400.00	
Pipe, 2-inch air, 1-inch water, $1.00 per foot	400.00	
Drill steel bits, $1.00 per foot	600.00	
Vent tube, 600 feet, $1.00 per foot	600.00	
		$3,700.00

7. Power

None

8. Transportation

Freight, pipe, rail, muscing machine, etc., estimate		400.00

9. Insurance

Workmen's compensation	$ 100.00	
Social security	50.00	150.00

10. Other

Assaying		100.00
	Total cost	$14,994.00
	Rounded to	$15,000.00

Average cost per foot $37.50

CONCLUSIONS

The proposal of the applicant will not reach the objective desired unless crosscutting is included to reach the west parallel vein. The ore body which was exposed and worked at surface on this parallel vein has been mined out and there is no evidence to indicate more ore at depth. The vein upon which the 189 feet of adit have been driven varies in width from a few inches to a maximum of 12 inches. Lead-zinc-copper mineralization is not present in sufficient quantity to be commercial: The vein was traced along the surface of the steep valley side through a vertical range of 500 feet and a horizontal distance of 800 feet. It did not widen appreciably or appear to change in mineral content. Except for a possible crossing by a fracture zone which might have formed a very small ore body, there is little geologic evidence to indicate the vein will change in character or that ore will be found in commercial grade or amount.

RECOMMENDATIONS

The proposal is recommended for denial, based on the following points:

1. The narrow width of the vein and sparse lead-zinc-copper mineralization as already exposed in the 189-feet lower adit.

2. The proposed drifting will not reach the intended objectives.

3. The bottom of the small ore shoot mined on the parallel vein has already been exposed and there is no expectancy for it to continue in depth.

4. There is no geologic evidence to indicate any favorable locations for larger ore shoots or that the veins will change in character.

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

MF-103 Should Be Filed With General Technical Data Form MF-100

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

Not To Be Filled in by Applicant

Docket No. DMEA-2490
Metal or Mineral
Date Received 4-21-52
Amount $
Participation (Government %)

Name and address of applicant

Barnes Mining Company
Ray C. Barnes
Silverton, Colorado

Date March 10th, 1952

If you have already filed MF-100, give date filed _____, type of assistance requested _____,

DMA Docket Number (if available) _____

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

1. (*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*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

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

NOTE: (1) 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 (*c*) 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.

(2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

(*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

question #1

(a) The Valley Forge Group - Sec. 10, T., 41N., R.7W.

Three patented claims - The Valley Forge, the Valley Forge Extention, and the Aurora.

(b) Attached

(c) See (a) also maps.

question #2

(a) Lead, Zinc, Copper

(b) See maps.

question # 3

(a) The proposed work is to extend or continue the present drift of the Valley Forge Claim. The present drift is 189 feet along the strike of the Valley Forge vein. This is a true fissure vein with ore showing all along the drift to the heading. I propose to drive approximately 400 feet farther along the strike of the vein in an endeavor to contact large ore chutes that are exposed on the surface above.

The estimated cost of this project will be approximately $20,400.00.

(b) The time required to start the project would be whatever time it would require to get a mucking machine and other rental equipment delivered from Denver, Colo. and put in place. There is ample experienced help available.

The estimated time required to complete the project will be eighteen work weeks of six day weeks, eight hours per day.

question # 5

Small compressor room in place at portal suitable for present exploration effort. Small twenty (20) ton bin. Track in place. Compressor, gasoline operated, 125 H. P., Waukesha engine. 750 Watt Delco automatic light plant. Ample water available from drift. No repairs necessary to put into operable condition at the present time.

question # 6

None anticipated at this time.

Question #7

(a) Equipment to be rented	Rental/month
1-Eimco Mucking Machine	$295.00
1-Thor 75 and Sinker Leg Rock Drill	65.00
1-Gasoline powered blower	50.00

(b) Equipment to be purchased	cost
600 feet Ventube ventilation tubing	$600.00
1-Used air receiver & fittings	250.00
800 feet 20 lb rail @ 160.00/ton	851.00
400 feet 4" pipe @ 138.00/per 100 ft	552.00

(c) Equipment to be furnished	Appraised Value
1-Ingersoll Rand 210 cu ft gasoline powered Compressor	3,250.00
1-1951 Willys Jeep	1,500.00
1-Delco Light Plant complete with batteries	450.00
1-Grinder-new	34.00
1-Welder-Gaspowered amp	87.50
1-C P 3" Drifter with shell	350.00
1-I R D 35 Drifter with shell	400.00
1-Pipe Vise -new	15.00
1 - Bench Vise -new	8.00
1-G D S 55 Jackhammer	150.00
1-¼HP DC Motor to operate grinder	55.00
2-30 gal Water pressure tanks with fittings	90.00
1-19 cu ft Ore Cars	100.00
2-Switches	20.00
200-ft 20# Rail with fish plates	70.00
200-ft assorted pipe	120.00
250-ft 1" air hose	200.00
50-ft 3/4" air hose	30.00
50-ft ½" water hose	25.00
Total appraised value	6,954.50
Depreciation per month (1/60 of appraised value) ($115.91 per month)	

question #8

2 miners (machine men)	Contract $ 15.00	per	ft
1 laborer underground (miscl)	$ 1.50	"	hr
1 outside man (compressor opr. etc)	$ 1.75	"	"
1 general manager	$500.00	"	mo.

Question #9

Supplies Required

600 ft Lagging @ .09 per foot	$ 54.00
500 ft 4x4 for ties	52.00
2 tons Dynamite	820.00
12,000 ft fuse	160.00
1500 No. 6 caps	36.00
2600 gals gasoline	700.00
40 gals motor oil	36.00
Misc rock drill oil, grease	35.00
100 lbs carbide	10.00
Drill steel and bits	400.00
Freight	300.00
Track Spikes, bolts, nails	50.00
Miscellaneous supplies	400.00

Engineering & Technical Consultation	$ 500.00
Assaying	125.00
Accounting & Bookkeeping	450.00
Insurance of equpmnt	100.00
Compensation	300.00

question # 10

(a) I am prepared to invest my share of the of the amount requested for the proposed project.

(b) Yes.

question # 11

To the best of my knowledge the foregoing answers have sufficiently covered all conditions of the property.

Form MF-100
(May 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

GENERAL TECHNICAL DATA
FOR USE UNDER THE
DEFENSE PRODUCTION ACT OF 1950

NOT TO BE FILLED IN BY APPLICANT

Docket No. DMEA-2490

Date received 4-21-52

APR 22 1952

Barnes Mining Company
Ray C. Barnes
Silverton, Colorado

Name and address of applicant

Date March 10th, 1952

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (5) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

Supply the following information on separate sheets, arranged, numbered, and lettered as indicated:

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☒ Owner.
   - ☐ Lessee.
   - ☐ Contractor.
5. Number of years in production _____

   If not in production or operation, estimated date when production will begin _____
6. Experience of operators:
   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*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.

1- Materials produced

(a) Lead, Zinc, and Copper

(b) Gold and Silver

2-Name of Mine

Valley Forge Group
(consisting of three patented claims, The Valley Forge, Valley Forge Extention and The Aurora)

(a) 40 to 60 feet in old workings at the top.

(b) unknown

(c) 189 feet

(d) 2 open cuts on surface above

The Mine is not flooded and there are no pumping problems. The productive capacity is unknown because of lack of development.

3

(a) The nearest town and shipping point is Silverton, Colo. which is two miles south of the Valley Forge Group.

(b) Animas Mining District

(c) Sec. 10, T., 41N., R. 7W.

(d) San Juan County, Colorado

4

(a) Not in operation at present time. Forced to shut down because of weather conditions unusually severe this winter.

(b) Lessee

5 Number of years in production

(a) Unknown

(b) Production will begin at the conclusion of the exploration project. The sole purpose of the project is to contact larger ore bodies that are exposed on the surface above. (see maps)

6 Experience of operator

(a) I have been the mining game since 1935, and give the following for references.

A. G. Setter, 1898 Yarrow street, Lakewood, Colo.
Chas. O. Parker, 2114 Curtis St., Denver, Colo.
Robt. Palmer, State Office Bldg., Denver, Colo.
Chas. A. Chase, Silverton, Colorado

(b) same as above

7 History

(a) unknown

(b) unknown

(c) unknown

8

Does not apply.

9

Does Not apply.

10

Does not apply.

11 No change contemplated as there is no production at the present time.

12 Ore or Mineral Reserves:

(a) see maps

(b) unknown account lack of development

(c) not placer

13 Access roads

It is approximately two miles to Silverton, Colorado which is my residence and supply point.

It is approximately 600 feet from the Valley Forge bin to the Shenandoah Dives mill bins.

The roads are excellent.

14 Water supply

There is ample water for all seasons of the year from the mine itself also a nearby stream.

15 Power

The portal of the mine is within 200 feet of the Western Colorado Power Company power lines but we are equiped with gasoline driven motors as we feel it is much more economical, at least for the present phase of the operation.

16 Labor

2 miners (machine men)

1 laborer under ground (miscl)

1 outside man (compressor opr. etc.)

1 general manager

17 Equipment and Facilities:

Small compressor room in place at portal suitable for present exploration effort. Small twenty(20) ton bin. Track in place. Compressor, gasoline operated, 125 H. P., Waukesha engine. One 750 watt Delco automatic light plant. Ample water available from drift. No repairs necessary to put into operable condition at the present time.

18 There are no particular conditions or circumstances affecting my operations that are not described above.

(*b*) If deposit is other than placer:

(1) Submit assay plans and/or sections showing location and size of proved (measured) and probable (indicated) ore or mineral reserve.

(2) State the tonnage (indicate type of ton) and grade of each class of ore reserve, as above, and show how computed. Tabulated total ore reserve as follows:

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)					
Indicated (probable)					

(*c*) If placer:

(1) Give estimated total yardage and average marketable mineral content of each deposit.

(2) Submit map showing location of placer deposit and surrounding area, with all test holes or pits. Submit logs of each hole and test pit with depth and average value of each.

(3) Describe gravel, stating whether fine, medium or coarse; loose, tight, cemented, or frozen, and whether it contains stumps or boulders more than 1 foot in diameter; if so, how large, and in what proportion.

(4) Describe bedrock, giving type (granite, sandstone, shale, etc.) and state whether it is hard or soft, smooth, uneven or rough.

(5) Describe overburden, stating whether loose, tight, or cemented; fine or coarse textured; furnish estimate of average thickness and total amount.

(6) Tabulate the reserves using the form outlined above for ore or mineral reserves.

13. Access Roads:

Give road distances to shipping, supply and residence points, stating kind and condition of roads.

14. Water Supply:

State source and quantity of water available for operations and whether sufficient for all seasons of year.

15. Power:

State amount of power used, rate per hour, and source thereof.

16. Labor:

State number and classes (miners, muckers, millmen, etc.) of men employed during a recent representative payroll period.

17. Equipment and Facilities:

Describe present equipment on the property, including buildings. (State condition.) List major pieces of equipment now owned or controlled and in serviceable condition available for this operation.

18. Are there any particular conditions or circumstances affecting your operations that are not described above? If so, explain.

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.

Barnes Mining Company
(Valley Forge Group)
(Name of company)

By Rayle Barnes
(Signature of authorized official)

March 10th 1952
(Date)

Operator
(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.

U. S. GOVERNMENT PRINTING OFFICE 16—63792-1

(PMGC)

DEPARTMENT OF THE INTERIOR
~~REGIONAL OFFICE~~
REGION VII
~~KNOXVILLE~~, TENNESSEE

OFFICIAL BUSINESS

KNOXVILLE
FEB 7
7 PM
1952
TENN.

1

MR. FRANK E. JOHNSON
Chairman, Operating Committee
Defense Minerals Exploration Admin.
Dept. of the Interior
Washington 25, D. C.

2114 CURTIS STREET TELEPHONE MAin 1852

CHEMISTS, ASSAYERS, ENGINEERS

DENVER 2, COLO.

Folio 5845

Date March 15, 1952.

Barnes Mining Co.,
Silverton,
Colorado.

We hereby Certify, that the samples assayed for you gave the following results:

DESCRIPTION	GOLD OUNCES PER TON	SILVER OUNCES PER TON	COPPER PER CENT (WET)	LEAD PER CENT (WET)	ZINC PER CENT	IRON PER CENT	INSOLUBLE PER CENT	VALUE PER TON
Sample No. 1: 11" channel across streak.:	0.42	0.88	0.25	2.10	3.52			
Sample No. 2: 44" channel west of Sample No. 1:	0.10	0.70	0.25	1.55	2.38			

Gold at_____per ounce Copper at_____per unit

Silver at_____per ounce Zinc at_____per unit

Lead at_____per unit _____

Charge $ 9.00

CHARLES O. PARKER & CO.
CHEMISTS, ASSAYERS and ENGINEERS

SHENANDOAH-DIVES MINING CO.

Bought of **Wilbur Maxwell (Lessee**
Silverton, Colorado

Silverton, Colorado, JUN - 6 1939

Lot No. Mill
" Mine

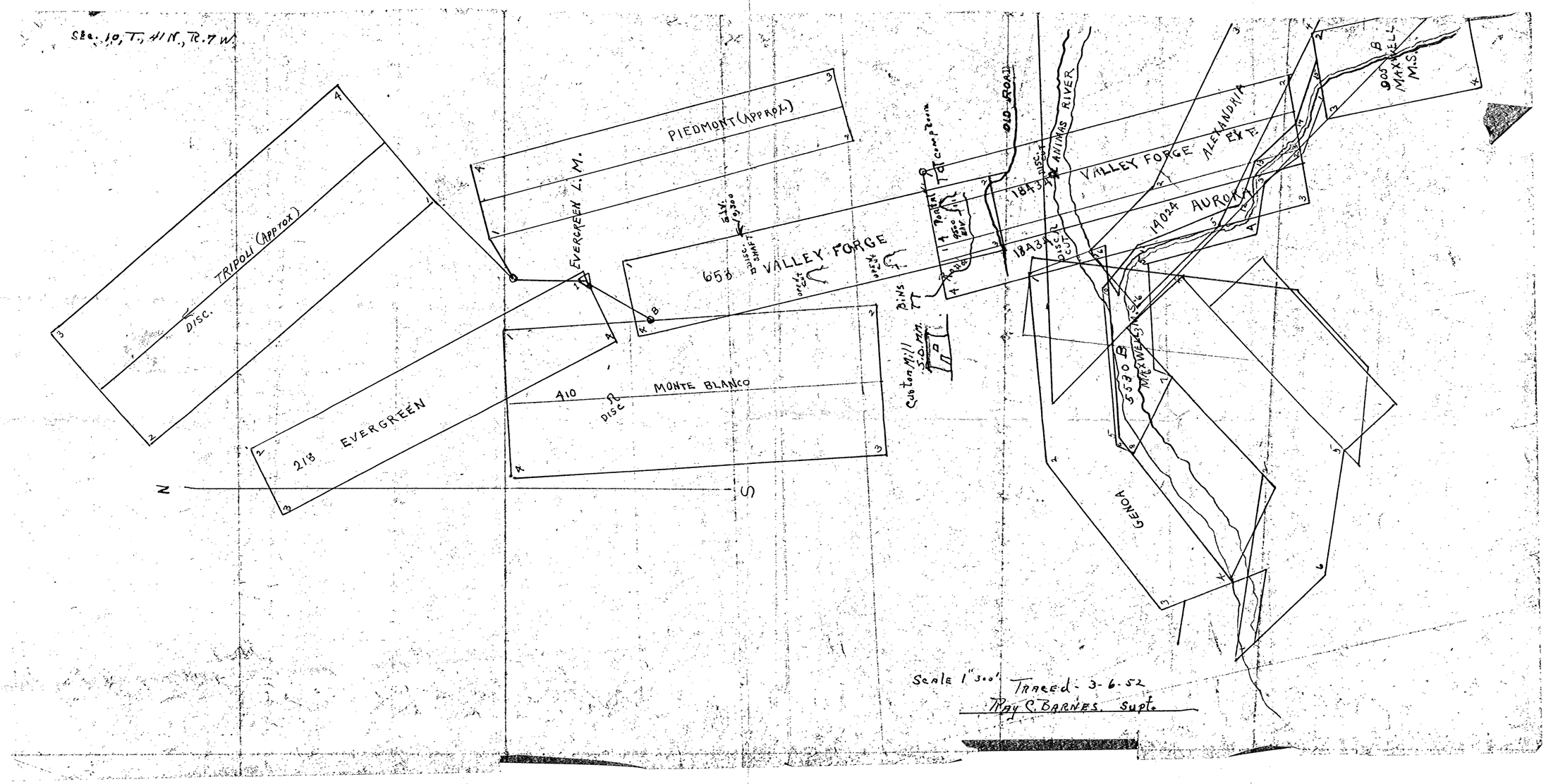
Quotation Week of **5/20/39** Gold **$35.00** Silver **$.64125** Lead **$4.75** Copper **$9.775**

Assays	Gold Oz per ton	Silver Oz per ton	Lead Per cent	Copper Per cent	Insol. Per cent	Zinc Per cent	Iron Per cent
Shenandoah-Dives Mill	.185	8.2	22.1	2.0	34.8	17.0	5.4
Mine							
Umpire							
Settlement Assay							

Metal in Ore		Recovery		Concentrate Metal		Assay		Paid For		Price	Value
Au	1.089	oz 85	%	.926	oz	.442	oz	.442	oz	$ 32.81825	$ 14.51
Ag	48.26	oz #	%	41.02	oz	19.59	oz	95% 18.61	oz	.64135	11.93
Pb	2,601	lb #	%	2,211	lb	52.79	%	- 1.5 x 90% 46.16	%	.6365	29.38
Cu	235	lb #	%	200	lb	4.78	%	- 1.0 - 3.78	%	.6300	2.38
											$ 59.20
								Treatment Base Charge		$8.00	
								Pb Premium	@.10		
										8.00	
In		lb	%		lb	5.00	%	Insoluble	@.05	.25	
Zn	2,001	lb 53	%	33[illegible]	lb	8.00	%	Zinc	@.50		
										8.25	
Fe	636	lb 53	%	337	lb	8.05	%	Iron Cr.	@.05	.40	

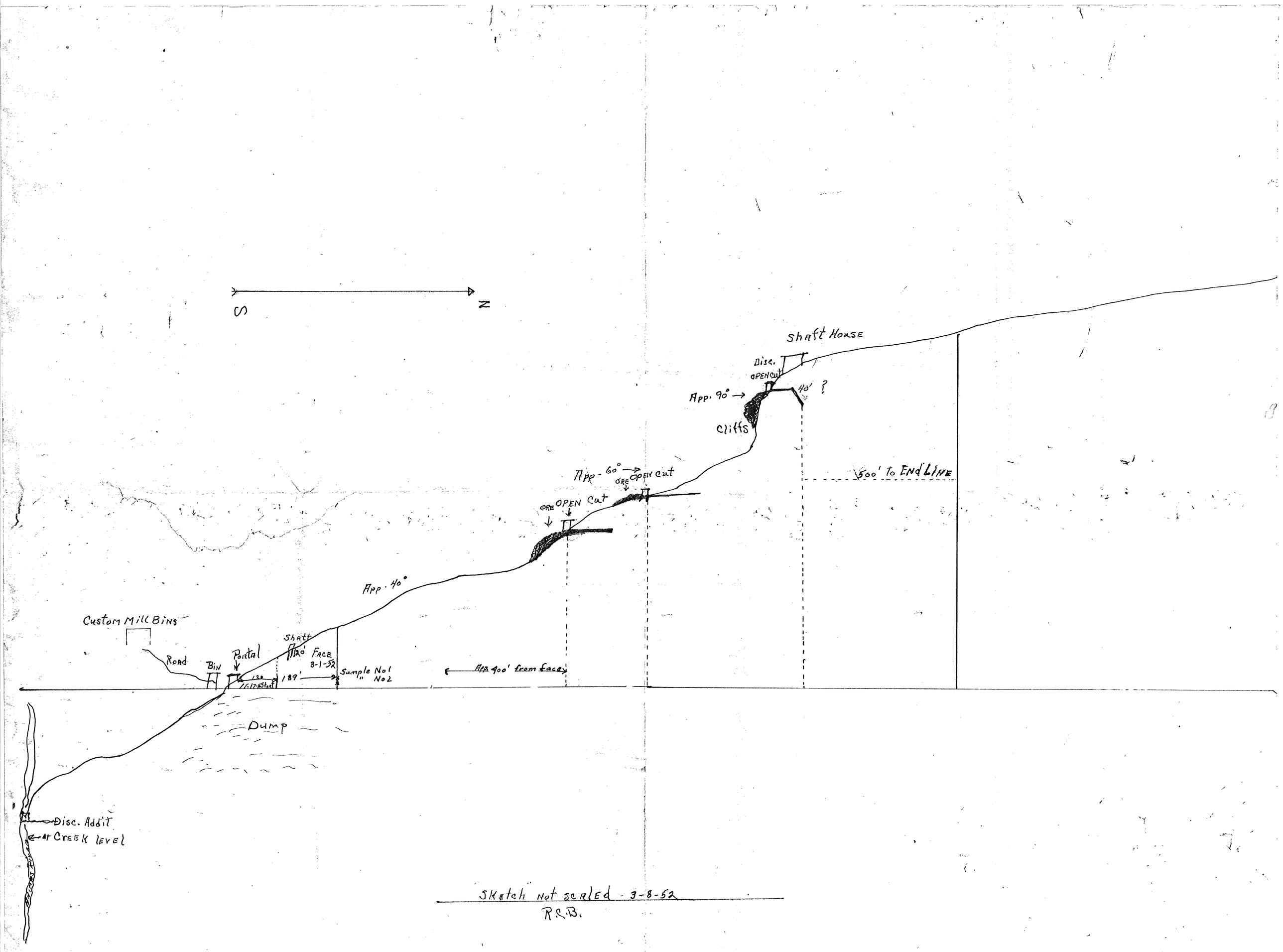
Ore - Wet	11,830	lbs	5.915	tons				
Moisture 0.5 %	60	lbs	.030	tons	Total Treatment		$ 7.85	
Ore - Dry	11,770	lbs	5.885	tons				
Ratio 2.81	4,183	lbs	2.094	tons, Concentrate	2.094	Dry tons @	$ 50.35	$ 105.43
		Freight, Dry tons	2.094					
		Add 10% Moisture	.233		2.327	Wet tons @	$ 3.50	$ 8.14
								97.29
Correct E.A.L		Trucking,			Wet tons @	$		
		Milling	5.885		Dry Tons @ 3.00	17.66		
Checked S.C.Mc		Umpire Charge					$ 17.66	
		Royalty				@ %	$	17.66
						NET PROCEEDS		$ 79.63

COPY OF ORIGINAL SETTLEMENT SHEET DATED June 6, 1939



Scale 1" = 100' Traced - 3-6-52

Ray C. Barnes, Supt.



Sketch not scaled - 3-8-52
R.S.B.