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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
JAN 23 1953

224 New Customhouse
Denver 2, Colorado

January 20, 1953

Memorandum

To: C. O. Mittendorf, Administrator, DMEA

From: Executive Officer, DMEA Field Team, Region IV

Subject: Docket DMEA 2675, East Ridge Company, Ouray County, Colorado

Reference is made to your letter dated December 29, 1952, regarding the date of withdrawal of Docket DMEA 2675.

The letter transmitting the final report on this docket stated that the applicant requested withdrawal of his application in a letter dated August 15, 1952. This is in error. On October 28, 1952, the applicant requested that we do no further work on Docket DMEA 2675. He implied that he would submit another application as soon as he was able to assemble more definite information on the Rosebud area. The East Ridge Company requested withdrawal of Docket DMEA ~~2615~~ 2675 on August 15, 1952.

W. H. King
W. H. King

Reviewed by
DMEA OPERATING COMMITTEE
1-30-53
(date)

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

224 New Customhouse
Denver 2, Colorado

January 20, 1953

Memorandum

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W. H. King

W. H. King

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

DEC 29 1952

Mr. W. H. King
Executive Officer
DMEA Field Team, Region IV
Bureau of Mines
224 New Customhouse Building
Denver 2, Colorado

Reference: DMEA Docket 2675
East Ridge Company
Ouray County, Colorado

Dear Mr. King:

This will acknowledge receipt of four copies of the final report of on-site investigation covering DMEA Docket 2675, East Ridge Company, Ouray County, Colorado.

Your memorandum covering transmittal of this report indicates that the applicant withdrew his application in a letter to the Field Team dated August 15, 1952. However, our records indicate that this application was received in the Washington office on August 25, 1952 and referred to Region IV on that day. It is requested that you verify the date of withdrawal by the applicant and inform us as to the correct date as soon as possible.

Sincerely yours,

E. O. Mittendorf

Administrator

RE:dmm:dg
December 23, 1952

CC: ADMR. Reading File
Mails and Files
R. E. Adams

FILE COPY
SURNAME:

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

DEC 29 1952

Mr. W. H. King
Executive Officer
DMEA Field Team, Region IV
Bureau of Mines
224 New Customhouse Building
Denver 2, Colorado

Reference: DMEA Docket 2675
East Ridge Company
Ouray County, Colorado

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Sincerely yours,

C. O. Mittendorf (for)

Administrator

12-29-52

HEAdams:ds
December 23, 1952

CC: ADMR. Reading File
Mails and Files
H. E. Adams

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 23 1952

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

224 New Customhouse
Denver 2, Colorado

December 18, 1952

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 210

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2675, (Lead-Zinc) East Ridge Co., R. E. Lee Claim, Ouray County, Colorado

Attached are four copies of the final report on the subject docket.

The applicant requested withdrawal of his application in a letter to the Field Team dated August 15, 1952.

John F. Shaw
John F. Shaw for
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
1-30-53
(date)

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 23 1952

Mining Division
Region IV

December 18, 1952

Memorandum

To: Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2675, (Lead-Zinc) East Ridge Company, E. E. Lee Claim, Ouray County, Colorado

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

The applicant has requested withdrawal of his application.

John F. Shaw
John F. Shaw for
W. E. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
1-30-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DEPARTMENT OF THE INTERIOR
Colorado Minerals Administration
RECEIVED
DEC 23 1952

Region IV

Building 20
Denver Federal Center
Denver 14, Colorado
December 15, 1952

Memorandum

To: Executive Officer, Field Team, Region IV

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

Subject: RMEA 2675 (Lead-Zinc), R. E. Lee mine, East Ridge Company, Ouray County, Colorado

Please find enclosed the original and eight copies of the "Summary, Conclusions, and Recommendations", by Russell R. McLellan and R. N. Marshman, and of McLellan's engineering report on the subject docket.

McLellan concludes the area has excellent possibilities for development of worthwhile lead-zinc ore reserves and that the applicant company has been proven competent, experienced, and reliable on the completed East Ridge Company contract (RMA 1297X, contract I-1MA-X39). If the new project is successful, production will undoubtedly result. A slightly revised program is recommended comprising snow removal, road construction, construction of one building, rehabilitation of 460 feet of the R. E. Lee tunnel with its extension 600 feet, and 400 feet of core drilling from the tunnel, at a total estimated cost of $45,917.00. This is a reduction from the $47,470.39 requested, and the time requirement to complete is expected to be seven months instead of the five months estimated by the applicant.

I approve McLellan's conclusions and recommendations.

The brochure furnished by the Region IV Field Team is returned herewith.

W. M. Traver, Jr.

W. M. Traver, Jr.

enclosures

WMT/amh

cc: 8
RMEA 2675, RMEA Chron.

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

200 New Customhouse
Denver 2, Colorado

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 23 1952

October 28, 1952

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2675, East Ridge Company, R. E. Lee Claim, Red Mountain Mining District, Ouray County, Colorado.

Attached are 8 copies of the geologic report by E. N. Harshman covering DMEA Docket 2675, East Ridge Company, Red Mountain Mining District, Ouray County, Colorado.

The applicant proposes to explore for lead-zinc ore on the R. E. Lee claim by means of 600 feet of drifting and 400 feet of diamond drilling. The subject property covers a southeasterly trending zone of mineralized fissures which at the surface cuts flows of the upper part of the Silverton volcanic series. In the vicinity of the Atlantic and R. E. Lee claims, the mineralized zone carries relatively small lenticular ore bodies. The ore shoots are from 2 to 4 feet wide and comprised of quartz, pyrite, galena, and sphalerite. The Lee mineralized zone is the southerly continuation of the zone of mineralized fractures which were very productive in the Telluride district

The geologic setting and the moderate success of the limited exploration done on the Atlantic-Lee zone indicate that further exploration in the Lee adit is warranted and may develop significant quantities of lead-zinc ore. Harshman, therefore, recommends that a loan be approved.

Minor changes have been made by the Bureau of Mines in the estimated cost of this project.

I concur in the recommendation of Mr. Harshman.

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 2675, R. E. Lee Mine, East Ridge Company

Ouray County, Colorado

Lead-Zinc

Russell R. McLellan, Mining Engineer
Bureau of Mines

E. N. Harshman, Geologist
U. S. Geological Survey

December 12, 1952

DMEA 2675

R. E. LEE MINE
EAST RIDGE COMPANY
OURAY COUNTY, COLORADO

Summary, Conclusions, and Recommendations

By Russell R. McLellan
Mining Engineer
Bureau of Mines

and

E. N. Harshman
Geologist
U. S. Geological Survey

offer excellent possibilities for the development of lead-zinc ore bodies of considerable size. The rather limited exploration proposed by the East Ridge Company should be considered as the first stage of a more extensive program that will eventually explore the more favorable ground between the R. E. Lee adit and the Andrus workings.

The company is well financed, well staffed, and operates with a maximum of efficiency. Sufficient equipment, facilities, and manpower can be obtained to complete the project successfully. Should this program prove encouraging, the company is willing to invest additional capital to explore further and develop the Atlantic area to the northwest.

The following exploration program is recommended for approval:

1. Bulldozing for snow removal
2. Construct approximately 3/4 mile of road
3. Construct one change house
4. Rehabilitate 460 feet of the R. E. Lee tunnel
5. Extend the R. E. Lee tunnel a total of 600 feet
6. Diamond drill a total of 400 feet from the R. E. Lee tunnel

EAST RIDGE COMPANY

R. E. LEE CLAIM

RED MOUNTAIN MINING DISTRICT

OURAY COUNTY, COLORADO

OMEA DOCKET 2075

Geologic Report

By E. N. Harshman
U. S. Geological Survey

R. E. LEE CLAIMS
OURAY COUNTY, COLORADO

INTRODUCTION

The East Ridge Company, 633 South Shatto Place, Los Angeles 5, California, has applied to the Defense Minerals Exploration Administration, DMEA Docket 2675, for a loan of $47,470.39 to explore for lead and zinc ore on the R. E. Lee claim (No. 16935). The claim is located in T. 42 N., R. 8 W., Ouray County, Colorado, about 1 mile northwest of Red Mountain Pass.

From Ouray, Colorado, the property is reached by following U. S. Highway 550 to Red Mountain Pass, a distance of 13 miles, and turning west from the top of the pass and following 1 mile of steep mine road. Highway 550 is kept open throughout the year, but the mine road is impassible during the winter months.

The property was examined on September 16, 1952, in the company of Francis H. Frederick, consulting geologist for the East Ridge Company. His assistance is acknowledged. R. R. McLellan, U. S. Bureau of Mines, examined the property on September 19, 1952.

The East Ridge Company controls a large block of claims that extend for over 2 miles northwesterly from Red Mountain Pass. The R. E. Lee claim is in the eastern part of the group. At present the Andrus claim, in the western part of the group, is being explored under DMA contract E-39.

In June 1952 the East Ridge Company applied for assistance, DMEA Docket 2615, to explore for lead-zinc ore on the Atlantic claim which adjoins the R. E. Lee claim on the west (fig. 3). After a field examination it was concluded that the applicant should withdraw the application for

assistance on the Atlantic claim and request assistance for exploration on the R. E. Lee claim. The East Ridge Company agreed to this change; this examination was made following their request for exploration assistance on the R. E. Lee claim.

The company proposes to explore the area by 600 feet of drifting and 400 feet of diamond drilling.

GEOLOGY

The claims owned or controlled by the East Ridge Company cover a southeasterly trending zone of mineralized fissures which at the surface cut flows of the upper part of the Silverton volcanic series. An excellent geologic map of the western San Juan Mountains by Burbank (1931) shows the Andrus-Atlantic-Lee vein system as a continuation of the Smuggler Union-Ajax-Ida-Columbia fissure zone. This zone was well mineralized in the Telluride area but in the vicinity of the Atlantic and R. E. Lee claims, it appears less well defined and the ore developed to date is confined to relatively small lenticular bodies.

Exposed underground in the Atlantic drift is a mineralized zone striking N. 55° W., and dipping 75° S. Individual fractures within the zone are not parallel but diverge and converge at slight angles, both along their dip and strike, giving a braided effect. Based on the limited exposures of ore in the Atlantic adit and a brief examination of the Andrus workings, it appears that the ore shoots occur where several of the individual fractures join to form a somewhat brecciated zone susceptible to mineralization.

In the Atlantic drift an ore shoot about 40 feet long is exposed at the convergence of several fractures (fig. 2). The ore bearing structure

is from 2 to 4 feet wide and contains quartz, sulfides, and gouge in crushed and altered wall rock. The principal sulfide minerals are pyrite, galena, and sphalerite. To the northwest of the ore shoot the vein breaks up into a number of narrow (1 or 2 inch) sulfide bearing quartz stringers in brecciated country rock. Southeast of the ore shoot the vein structure is strong but quartz and sulfides are present only in minor amounts.

In the old R. E. Lee adit, recently reopened by the applicant, a number of minor faults are exposed but no vein material is present in any of the workings (fig. 2). About 290 feet from the portal a weak zone of silicification is exposed on the west wall of the adit, but no sulfide minerals are present. This zone may be related to the Andrus-Atlantic-Lee vein system, but, at least where it was cut in the adit, it appears of minor importance.

Surface investigations indicate the presence of at least 2 major northeast trending faults in the area between the face of the R. E. Lee adit and the portal of the Atlantic drift (fig. 3). Burbank (1941) shows these faults as part of the ring system of fissures that encircles the main down-faulted block of the Silverton caldera. These faults appear to be pre-mineral but as far as could be ascertained from the few poor exposures, they contain little or no sulfide ore in this area.

Several thousand feet north of the Andrus-Atlantic-Lee fissure zone, the southwest trending Argentine-Tomboy-Black Bear zone is now being mined and developed through the Treasury Tunnel. Production is reported to be about 800 tons of lead-zinc-silver ore per day.

SAMPLES

The ore shoot exposed in the Atlantic drift was sampled by the U. S. Bureau of Mines. Five samples cut across the vein assayed as follows:

Sample No.	Width	% Pb	% Zn	% Cu	oz. Ag
RRM 25	4.0'	0.95	1.2	0.09	0.3
RRM 26	2.5'	3.2	3.8	0.15	0.9
RRM 27	3.2'	2.2	3.3	0.12	0.6
RRM 28	4.3'	5.5	6.7	0.27	1.0
RRM 29	2.4'	2.7	3.9	0.12	0.9

The applicant sampled the vein on the surface, at a point slightly ahead of the present heading on the Atlantic drift. Assays of the samples follow:

Sample No.	Width	% Pb	% Zn	% Cu	oz. Ag
----	1.7'	23.7	2.5	0.4	5.4

This exposure was covered with talus at the time of examination and the sample was not checked.

No vein material was exposed in the R. E. Lee adit and no samples were taken.

ORE RESERVES

An ore shoot about 40 feet long and 3 foot wide is exposed in the Atlantic drift. Nothing is known of the vertical extent of the ore, but a rough estimate of the inferred reserves would be 500 tons of ore averaging 3.6% Pb and 4.7% Zn.

CONCLUSIONS

1. The Andrus-Atlantic-Lee zone is the southeasterly continuation of a zone of mineralized fractures which were very productive in the Telluride district. A similar zone, several thousand feet to the north of the East Ridge property, is now being mined successfully at a rate of about 800 tons per day. The geologic setting and the moderate success of the limited exploration done on the Andrus-Atlantic-Lee zone indicate that further exploration in the area between the R. E. Lee adit and the Andrus workings is warranted and may develop significant quantities of lead-zinc ore.

2. The proposed exploration from the R. E. Lee adit will expose the Andrus-Atlantic-Lee zone to the southeast of, and about 400 feet below the ore sheet exposed in the Atlantic drift. Since the strong northeast faults, previously mentioned, displace each fault block downward progressively toward the southeast, it is possible that the proposed exploration will expose the fracture zone in the upper part of the San Juan tuff--a very favorable ore horizon.

3. The examining team believes that this exploration program should be considered as the first stage of an extensive program which should have as its objective the exploration of the Andrus-Atlantic-Lee zone, in the area beneath and to the northeast of the Atlantic drift (fig. 3). The extension of the program, through several successive stages, may well lead to the development of a large tonnage of lead-zinc ore.

RECOMMENDATIONS

The proposed exploration program submitted by the East Ridge Company appears satisfactory. Minor changes have been made by the U. S. Bureau of Mines in the estimated cost figures and the time required to complete the work. The revised estimates allow 7 months and $45,917.00, (Government participation $22,958.50), for rehabilitation of the R. E. Lee adit, 600 feet of drifting and 400 feet of diamond drilling. It is recommended, for reasons outlined in the conclusions of this report, that the application of the East Ridge Company, DMEA Docket 2675, be approved.

REFERENCES

Burbank, W. S., Structural control of ore deposition in the Red Mountain, Sneffels, and Telluride Districts of the San Juan Mountains, Colo.: Colorado Sci. Soc. Proc., Vol. 14, No. 5, 1941.

DMEA 2675

R. E. LEE MINE
EAST RIDGE COMPANY
OURAY COUNTY, COLORADO

Engineering Report

By Russell R. McLellan
Mining Engineer
Bureau of Mines

DMEA 2675

R. E. LEE MINE
EAST RIDGE COMPANY
OURAY COUNTY, COLORADO

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ILLUSTRATIONS

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1. Location map, R. E. Lee mine, Ouray County, Colorado	2
2. Plan map of R. E. Lee and Atlantic workings, Ouray County, Colorado	*
3. Claim map, Robert E. Lee mine, Ouray County, Colorado	15

*See figure following geologic report.

DMEA 2675

R. E. LEE MINE
EAST RIDGE COMPANY
OURAY COUNTY, COLORADO

ENGINEERING REPORT

By

Russell R. McLellan

INTRODUCTION

The East Ridge Company, of Los Angeles, Calif., has applied for assistance to explore for lead and zinc on the R. E. Lee claim, Red Mountain Mining District, Ouray County, Colo. The company proposes to explore for vein extensions by driving the R. E. Lee tunnel an additional 600 feet and by diamond drilling 400 feet of transverse holes from the tunnel at a total estimated cost of $47,470.39.

E. N. Harshman, of the U. S. Geological Survey, and Russell R. McLellan, of the Bureau of Mines, examined the property in September 1952 and are in agreement with the company proposals but take exception to certain expenditures, some of which are believed to be unnecessary while others are believed to be underestimated. The revised estimated cost is $45,917.00. The Government's share of the cost will amount to $22,958.50.

ACKNOWLEDGMENTS

Francis H. Frederick, consulting geologist to the East Ridge Company, accompanied the examining engineer and geologist on a surface and underground tour of the property. All necessary information was supplied by Federick during the examination.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The R. E. Lee claim and tunnel are approximately 1 road mile west of the summit of Red Mountain Pass, Ouray County, Colorado (fig. 1). A steep temporary mine road leads to the portal from U. S. Highway 550 on the summit of the pass. The tunnel is at an altitude of 11,650 feet and is expected to be isolated by deep snow drifts for several months of each year. With a new road from U. S. Highway 550, the mine will be readily accessible during the summer and early fall.

Supplies may be obtained at Ouray, 13 miles away, or at Silverton, 11 miles away. Heavy equipment will have to be trucked from Grand Junction, Colo., or from Denver. Sufficient water is available for mining and for diamond drilling. Gasoline-powered equipment will be used as electric power is not available at the mine. Miners are available locally and will commute from Ouray and Silverton.

HISTORY AND PRODUCTION

The early history of the R. E. Lee mine is unknown. It is obvious by inspection, however, that little or no production has come from the tunnel. Apparently, the past purpose of the tunnel, as now, was to explore for several veins believed to extend onto the R. E. Lee claim. The tunnel was abandoned before encountering any veins of economic value.

OWNERSHIP

All exploration will be confined to the following claims:

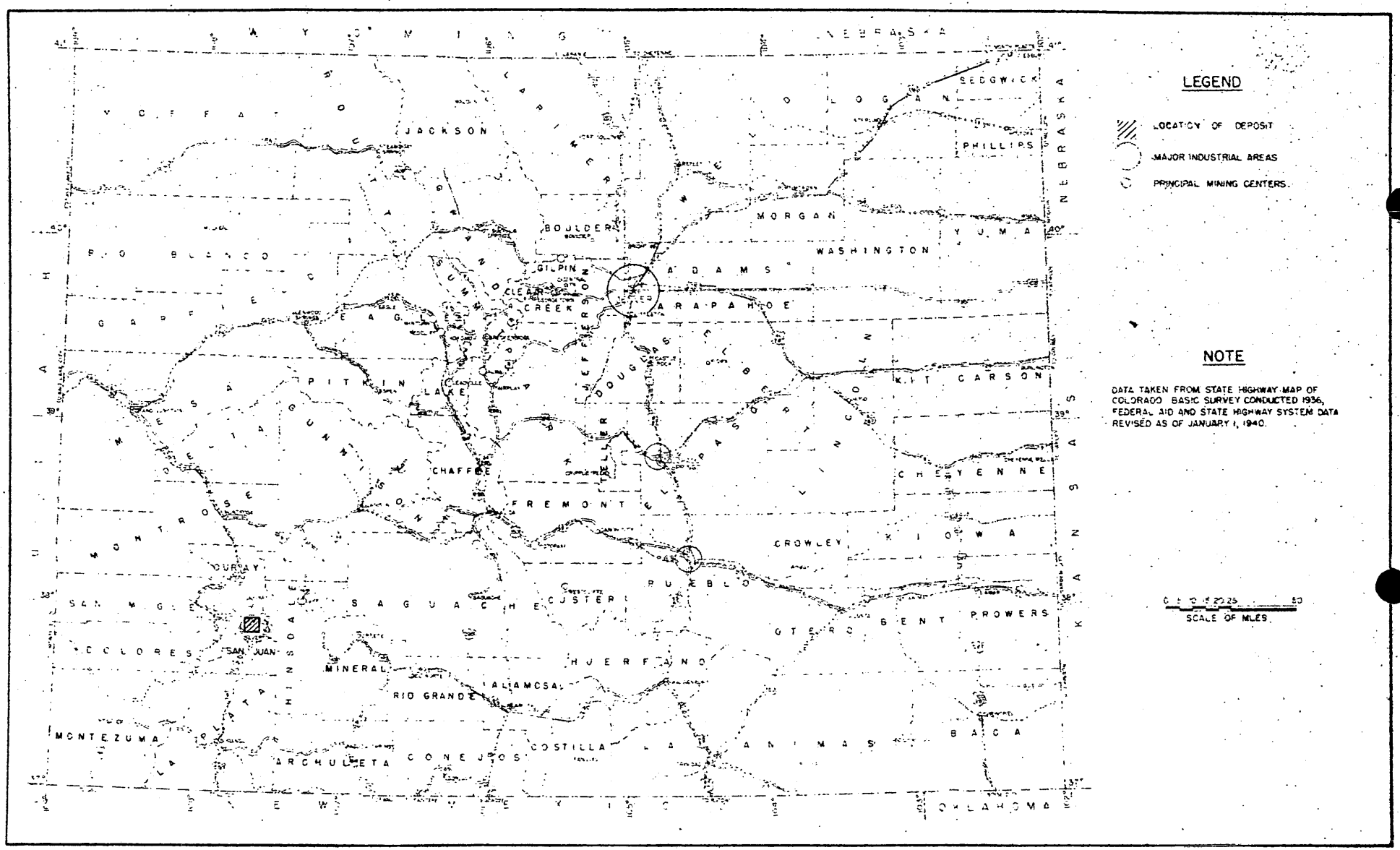

Figure 1. Location map, R. E. Lee mine, Ouray County, Colorado, DMEA 2675.

R. E. Lee ----------Survey No. 16935
Atlantic No. 3 ----------Survey No. 16935
Atlantic No. 5----------Survey No. 18545
Columbine----------Survey No. 16935

The above claims are owned by the applicant company and by the West Shore Company, of California, on a 50 percent basis. According to the operating agreement included with the application, the East Ridge Company has under lease the 50 percent interest owned by the West Shore Company.

DESCRIPTION OF THE DEPOSIT

It should be stressed that this project is strictly exploration in an area that has experienced little exploration or development in the past. Indications of the presence of a system of ore-bearing veins which may connect with those of the Andrus system make the area extremely attractive for exploration from the R. E. Lee tunnel. By extending the tunnel and by diamond drilling into the walls it may be possible to locate the extension of two or more steeply dipping, ore-bearing veins that crop out on the Atlantic claim approximately 1200 feet to the west and approximately 450 feet higher in elevation. With the exception of information derived from a few surface cuts and from the short Atlantic drift, nothing is known of the extent of lead-zinc mineralization in these veins on the east side of the mountains. Encouraging discoveries are being made on the west or Andrus side of the mountain. Should the veins and mineralization prove to be more or less continuous, a long range program of exploration and development definitely will be initiated by the Company.

MINEABLE ORE RESERVE

There appears to be no ore reserve whatsoever in the R. E. Lee tunnel. The Atlantic drift contains an inferred reserve of approximately 500 tons of ore averaging 3.6 percent lead and 4.7 percent zinc.

PRESENT STATUS

The R. E. Lee tunnel is 550 feet long, of which 460 feet will be utilized as an approach to the area to be explored. The tunnel is open to the breast but will need complete rehabilitation with respect to track, pipe, and timber. On the examination date, no facilities or equipment were on the property. The portal is accessible only by a steep, rough, temporary road.

PROJECT PROPOSALS, WITH COSTS

The East Ridge Company proposes to rehabilitate 460 feet of the R. E. Lee tunnel, drive 200 to 300 feet to cross a faulted area, diamond drill 400 feet of holes to locate the Atlantic vein, extend the tunnel to the vein, and drift northwest until the maximum allowable footage of 600 feet is attained (fig. 3). The project should be completed within 7 months. Detailed costs are as follows:

Project 1
Bulldozer work for snow removal

Bulldozer Work

150 hours at $10.00 per hour, including operator $ 1,500.00

Project 2
Road construction - approximately 3/4 mile

Bulldozer Work

50 hours at $10.00 per hour, including operator $ 500.00

Labor and Supervision

Labor:			
2 - Surface men for drilling and blasting, 12 shifts each at $1.75 per hour, including overtime	$364.00		
1 - Mechanic, estimated 2 shifts at $1.75 per hour	28.00	$ 392.00	
Supervision:			
1 - Supervisor at $600.00 per month, prorated		200.00	$ 592.00

Operating Materials and Supplies

Explosives, caps, fuse	$ 200.00	
Drill steel and bits	150.00	
Compressor fuel and oil	50.00	
Vehicle fuel and oil	30.00	
Small tools	40.00	
Other supplies	80.00	550.00

Operating Equipment

Depreciation:		
1 - Jackhammer, 1 week	$ 2.00	
1 - Compressor, 1 week	28.00	
2 - Jeeps, 1 - truck, prorated	10.00	40.00

Miscellaneous

Equipment repair	$ 50.00	
Social security	10.00	
Workmen's compensation	18.00	
Freight	50.00	
Accounting at $150.00 per month, prorated	37.00	165.00

Total cost of road construction $ 1,847.00

Project 3
Construct change house

Labor

1 - Carpenter, 1 week at $1.75 per hour, including overtime	$ 91.00	
1 - Helper, 1 week at $1.50 per hour, including overtime	78.00	$ 169.00

Materials and Supplies

Lumber	$ 261.00	
Other supplies	25.00	286.00

Miscellaneous

Social security	$ 2.50		
Workmen's compensation	5.50		
Accounting, $150.00 per month, prorated	37.00	$ 45.00	
Total cost of change house			$ 500.00

Project 4
Rehabilitate 460 feet of tunnel

Labor and Supervision

Labor:			
2 - Miners, 28 shifts each at $1.75 per hour, including overtime	$ 840.00		
2 - Timbermen, 29 shifts each at $1.75 per hour, including overtime	882.00		
1 - Combined mechanic-carpenter-repairman, 25 shifts at $1.75 per hour, including overtime	378.00	$2,100.00	
Supervision:			
1 - Superintendent, approximately 1 month at $600.00 per month, prorated		400.00	$2,500.00

Operating Materials and Supplies

Timber	$1,540.00	
Pipe, air, water, vent	920.00	
Rail, ties, bolts, spikes, plates	690.00	
Compressor fuel and oil	50.00	
Vehicle fuel and oil	50.00	
Small tools	75.00	
Other supplies	150.00	3,475.00

Operating Equipment

Purchase:			
5 - Mine cars at $100.00 each, prorated	$ 20.00		
1 - Air trammer, $2,500.00, prorated	500.00		
1 - Blower, with engine, $300.00, prorated	60.00	$ 580.00	
Depreciation:			
1 - Mucking machine for 1 month	$ 50.00		
1 - Compressor, prorated	90.00		
2 - Jeeps, 1 - truck, prorated, 1 month	70.00	210.00	790.00

Miscellaneous

Social security	$ 41.00		
Workmen's compensation	83.00		
Freight	150.00		
Accounting, prorated	76.00	$ 350.00	
Total cost of rehabilitation			$ 7,115.00

Project 5
Drift 600 feet and cut drill station

Labor and Supervision

Labor:			
Contract at $16.00 per foot, including tramming labor and overtime	$10,400.00		
1 - Combined mechanic-carpenter-repairman, 5 months at $1.75 per hour, including overtime	1,972.00	$12,372.00	
Supervision:			
1 - Superintendent, 5 months at $600.00 per month	$ 3,000.00		
1 - Engineer-geologist, 10 shifts at $50.00	500.00	3,500.00	$15,872.00

Operating Materials and Supplies

Timber	$ 700.00	
Explosives, caps, fuse	2,400.00	
Pipe, air, water, vent	1,200.00	
Track, spikes, bolts, plates, ties	900.00	
Compressor fuel and oil	600.00	
Vehicle fuel and oil	538.00	
Drill steel and bits	1,200.00	
Small tools	200.00	
Other supplies	1,500.00	9,238.00

Supervision:			
1 - Superintendent, $600.00 per month, prorated amount	$ 300.00		
1 - Engineer-geologist, $50.00 per day, 5 days	250.00	$ 550.00	$1,460.00
Operating Materials and Supplies			
Compressor fuel		$ 100.00	
Vehicle fuel		75.00	
Core boxes, 15 at $4.00 each		60.00	
Diamond loss at $1.00 per foot		400.00	
Other supplies		125.00	760.00
Operating Equipment			
Purchase:			
2 - Mine cars (used) at $100.00 each, prorated cost	$ 20.00		
1 - Air trammer, $2,500.00, prorated cost	250.00		
1 - Blower, with engine, prorated cost	40.00	$ 310.00	
Depreciation:			
1 - Compressor, 1 month	$ 118.00		
2 - Jeeps, 1 - pickup, 1 month	79.00		
1 - Diamond drill rig, 1 month	59.00	256.00	566.00
Miscellaneous			
Equipment repairs		$ 50.00	
Sampling and analysis		20.00	
Social security		29.00	
Workmen's compensation		51.00	
Freight		50.00	
Accounting, $150.00 per month		150.00	350.00
Total cost of diamond drilling			$ 3,136.00
Total cost of exploration			$45,917.00

Diamond drill 400 feet:			
1 - Driller, 28 shifts at $2.00 per hour, including overtime	$ 485.00		
1 - Helper, 28 shifts at $1.75 per hour, including overtime	425.00	$ 910.00	
Total labor			$ 5,543.00
Supervision:			
Road construction:			
1 - Superintendent, $600.00 per month, prorated amount		$ 200.00	
Rehabilitate 460 feet of tunnel:			
1 - Superintendent, $600.00 per month, prorated amount		400.00	
Drift 600 feet:			
1 - Superintendent, $600.00 per month, 5 months	$3,000.00		
1 - Engineer-geologist, 10 days at $50.00 per day	500.00	3,500.00	
Diamond drill 400 feet:			
1 - Superintendent, $600.00 per month, prorated amount	$ 300.00		
1 - Engineer-geologist, 5 days at $50.00 per day	250.00	550.00	
Total supervision			4,650.00
Total labor and supervision			$10,193.00

(3) Operating Materials and Supplies

Item	Road	Change House	Rehabilitation	Drift	Drilling	Total
Timber		$261.00	$1,540.00	$ 700.00		$ 2,501.00
Explosives	$200.00			2,400.00		2,600.00
Pipe			920.00	1,200.00		2,120.00
Rail			690.00	900.00		1,590.00
Steel and bits	150.00			1,200.00		1,350.00
Compressor fuel	50.00		50.00	600.00	$100.00	800.00
Vehicle fuel	30.00		50.00	538.00	75.00	693.00
Small tools	40.00		75.00	200.00		315.00
Core boxes					60.00	60.00
Diamond loss					400.00	400.00
Other	80.00	25.00	150.00	1,500.00	125.00	1,880.00
Totals	$550.00	$286.00	$3,475.00	$9,238.00	$760.00	
Total operating materials and supplies						$14,309.00

(4) Operating Equipment

Purchase:

1 - Rock drill, with leg and accessories		$ 600.00	
5 - Mine cars (used) at $100.00 each, cost prorated to:			
Rehabilitation	$ 20.00		
Drift	460.00		
Drilling	20.00	500.00	
1 - Air trammer, cost prorated to:			
Rehabilitation	$ 500.00		
Drift	1,750.00		
Drilling	250.00	2,500.00	
1 - Blower, with gas engine, cost prorated to:			
Rehabilitation	$ 60.00		
Drift	200.00		
Drilling	40.00	300.00	
1 - Water pressure tank, with fittings		25.00	
Total equipment purchase			$ 3,925.00

Depreciation:

1 - Jackhammer		$ 2.00	
1 - Compressor, 310 c.f.m., cost prorated to:			
Road	$ 28.00		
Rehabilitation	90.00		
Drift	591.00		
Drilling	118.00	827.00	
1 - Mucking machine, cost prorated to:			
Rehabilitation	$ 50.00		
Drift	251.00	301.00	
2 - Jeeps, 1 - pickup, cost prorated to:			
Road	$ 10.00		
Rehabilitation	70.00		
Drift	398.00		
Drilling	79.00	557.00	
1 - Diamond drill rig		59.00	
Total equipment depreciation			1,746.00
Total for operating equipment			$ 5,671.00

additional exploration will be advisable in the area. The possibility of encountering ore probably will be more favorable as drifting progresses westward toward the Atlantic claim where low-grade ore is exposed. Under the present program, the exploration will not be sufficient to reach a point directly below the Atlantic workings. Enough information, however, should be obtained to determine the advisability of continued exploration from the R. E. Lee level.

It is believed that the company underestimated the amount of time necessary to complete the program. The time schedule, therefore, has been extended to 7 months and the total cost has been revised to $45,917.00.

RECOMMENDATIONS

It is recommended that the following projects be approved to comprise an exploration program for the R. E. Lee claim.

1. Bulldozing for snow removal
2. Construct approximately 3/4 mile of road
3. Construct one change house
4. Rehabilitate 460 feet of the R. E. Lee tunnel
5. Extend the R. E. Lee tunnel a total of 600 feet
6. Diamond drill a total of 400 feet from the R. E. Lee tunnel

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

Mining Division
Region IV

December 18, 1952

Memorandum

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 23 1952

To: Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2675, (Lead-Zinc) East Ridge Company, R. E. Lee Claim, Ouray County, Colorado

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

The applicant has requested withdrawal of his application.

John F. Shaw
John F. Shaw for
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
1-30-53
(date)

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

224 New Customhouse
Denver 2, Colorado

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 23 1952

December 18, 1952

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 210

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2675, (Lead-Zinc) East Ridge Co., R. E. Lee Claim, Ouray County, Colorado

Attached are four copies of the final report on the subject docket.

The applicant requested withdrawal of his application in a letter to the Field Team dated August 15, 1952.

John F. Shaw
John F. Shaw for
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
1-30-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20
Denver Federal Center
Denver 14, Colorado
December 15, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 23 1952

Memorandum

To: Executive Officer, Field Team, Region IV

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

Subject: DMEA 2675 (Lead-Zinc), R. E. Lee mine, East Ridge Company, Ouray County, Colorado

Please find enclosed the original and eight copies of the "Summary, Conclusions, and Recommendations", by Russell R. McLellan and E. N. Harshman, and of McLellan's engineering report on the subject docket.

McLellan concludes the area has excellent possibilities for development of worthwhile lead-zinc ore reserves and that the applicant company has been proven competent, experienced, and reliable on the completed East Ridge Company contract (DMA 1297X, contract I-DMA-E39). If the new project is successful, production will undoubtedly result. A slightly revised program is recommended comprising snow removal, road construction, construction of one building, rehabilitation of 460 feet of the R. E. Lee tunnel with its extension 600 feet, and 400 feet of core drilling from the tunnel, at a total estimated cost of $45,917.00. This is a reduction from the $47,470.99 requested, and the time requirement to complete is expected to be seven months instead of the five months estimated by the applicant.

I approve McLellan's conclusions and recommendations.

The brochure furnished by the Region IV Field Team is returned herewith.

W. M. Traver, Jr.

W. M. Traver, Jr.

enclosures

WMT/amh

cc: 8
DMEA 2675, DMEA Chron.

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

200 New Customhouse
Denver 2, Colorado

October 28, 1952

Memorandum

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 23 1952

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2675, East Ridge Company, R. E. Lee Claim, Red Mountain Mining District, Ouray County, Colorado.

Attached are 8 copies of the geologic report by E. N. Harshman covering DMEA Docket 2675, East Ridge Company, Red Mountain Mining District, Ouray County, Colorado.

The applicant proposes to explore for lead-zinc ore on the R. E. Lee claim by means of 600 feet of drifting and 400 feet of diamond drilling. The subject property covers a southeasterly trending zone of mineralized fissures which at the surface cuts flows of the upper part of the Silverton volcanic series. In the vicinity of the Atlantic and R. E. Lee claims, the mineralized zone carries relatively small lenticular ore bodies. The ore shoots are from 2 to 4 feet wide and comprised of quartz, pyrite, galena, and sphalerite. The Lee mineralized zone is the southerly continuation of the zone of mineralized fractures which were very productive in the Telluride district.

The geologic setting and the moderate success of the limited exploration done on the Atlantic-Lee zone indicate that further exploration in the Lee adit is warranted and may develop significant quantities of lead-zinc ore. Harshman, therefore, recommends that a loan be approved.

Minor changes have been made by the Bureau of Mines in the estimated cost of this project.

I concur in the recommendation of Mr. Harshman.

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

Enclosures (8)

EAST RIDGE COMPANY

R. E. LEE CLAIM

RED MOUNTAIN MINING DISTRICT

OURAY COUNTY, COLORADO

DMEA DOCKET 2675

Geologic Report

By E. N. Harshman
U. S. Geological Survey

R. E. LEE CLAIMS
OURAY COUNTY, COLORADO

INTRODUCTION

The East Ridge Company, 633 South Shatto Place, Los Angeles 5, California, has applied to the Defense Minerals Exploration Administration, DMEA Docket 2675, for a loan of $47,470.39 to explore for lead and zinc ore on the R. E. Lee claim (No. 16935). The claim is located in T. 42 N., R. 8 W., Ouray County, Colorado, about 1 mile northwest of Red Mountain Pass.

From Ouray, Colorado, the property is reached by following U. S. Highway 550 to Red Mountain Pass, a distance of 13 miles, and turning west from the top of the pass and following 1 mile of steep mine road. Highway 550 is kept open throughout the year, but the mine road is impassible during the winter months.

The property was examined on September 16, 1952, in the company of Francis H. Frederick, consulting geologist for the East Ridge Company. His assistance is acknowledged. R. R. McLellan, U. S. Bureau of Mines, examined the property on September 19, 1952.

The East Ridge Company controls a large block of claims that extend for over 2 miles northwesterly from Red Mountain Pass. The R. E. Lee claim is in the eastern part of the group. At present the Andrus claim, in the western part of the group, is being explored under DMA contract E-39.

In June 1952 the East Ridge Company applied for assistance, DMEA Docket 2615, to explore for lead-zinc ore on the Atlantic claim which adjoins the R. E. Lee claim on the west (fig. 3). After a field examination it was concluded that the applicant should withdraw the application for

assistance on the Atlantic claim and request assistance for exploration on the R. E. Lee claim. The East Ridge Company agreed to this change; this examination was made following their request for exploration assistance on the R. E. Lee claim.

The company proposes to explore the area by 600 feet of drifting and 400 feet of diamond drilling.

GEOLOGY

The claims owned or controlled by the East Ridge Company cover a southeasterly trending zone of mineralized fissures which at the surface cut flows of the upper part of the Silverton volcanic series. An excellent geologic map of the western San Juan Mountains by Burbank (1941) shows the Andrus-Atlantic-Lee vein system as a continuation of the Smuggler Union-Ajax-Ida-Columbia fissure zone. This zone was well mineralized in the Telluride area but in the vicinity of the Atlantic and R. E. Lee claims, it appears less well defined and the ore developed to date is confined to relatively small lenticular bodies.

Exposed underground in the Atlantic drift is a mineralized zone striking N. 55° W., and dipping 75° S. Individual fractures within the zone are not parallel but diverge and converge at slight angles, both along their dip and strike, giving a braided effect. Based on the limited exposures of ore in the Atlantic adit and a brief examination of the Andrus workings, it appears that the ore shoots occur where several of the individual fractures join to form a somewhat brecciated zone susceptible to mineralization.

In the Atlantic drift an ore shoot about 40 feet long is exposed at the convergence of several fractures (fig. 2). The ore bearing structure

is from 2 to 4 feet wide and contains quartz, sulfides, and gouge in crushed and altered wall rock. The principal sulfide minerals are pyrite, galena, and sphalerite. To the northwest of the ore shoot the vein breaks up into a number of narrow (1 or 2 inch) sulfide bearing quartz stringers in brecciated country rock. Southeast of the ore shoot the vein structure is strong but quartz and sulfides are present only in minor amounts.

In the old R. E. Lee adit, recently reopened by the applicant, a number of minor faults are exposed but no vein material is present in any of the workings (fig. 2). About 290 feet from the portal a weak zone of silicification is exposed on the west wall of the adit, but no sulfide minerals are present. This zone may be related to the Andrus-Atlantic-Lee vein system, but, at least where it was cut in the adit, it appears of minor importance.

Surface investigations indicate the presence of at least 2 major northeast trending faults in the area between the face of the R. E. Lee adit and the portal of the Atlantic drift (fig. 3). Burbank (1941) shows these faults as part of the ring system of fissures that encircles the main down-faulted block of the Silverton caldera. These faults appear to be pre-mineral but as far as could be ascertained from the few poor exposures, they contain little or no sulfide ore in this area.

Several thousand feet north of the Andrus-Atlantic-Lee fissure zone, the southwest trending Argentine-Tomboy-Black Bear zone is now being mined and developed through the Treasury Tunnel. Production is reported to be about 800 tons of lead-zinc-silver ore per day.

SAMPLES

The ore shoot exposed in the Atlantic drift was sampled by the U. S. Bureau of Mines. Five samples cut across the vein assayed as follows:

Sample No.	Width	% Pb	% Zn	% Cu	oz. Ag
RRM 25	4.0'	0.95	1.2	0.09	0.3
RRM 26	2.5'	3.2	3.8	0.15	0.9
RRM 27	3.2'	2.2	3.3	0.12	0.6
RRM 28	4.3'	5.5	6.7	0.27	1.0
RRM 29	2.4'	2.7	3.9	0.12	0.9

The applicant sampled the vein on the surface, at a point slightly ahead of the present heading on the Atlantic drift. Assays of the samples follow:

Sample No.	Width	% Pb	% An	% Cu	oz. Ag
----	1.7'	23.7	2.5	0.4	5.4

This exposure was covered with talus at the time of examination and the sample was not checked.

No vein material was exposed in the R. E. Lee adit and no samples were taken.

ORE RESERVES

An ore shoot about 40 feet long and 3 feet wide is exposed in the Atlantic drift. Nothing is known of the vertical extent of the ore, but a rough estimate of the inferred reserves would be 500 tons of ore averaging 3.6% Pb and 4.7% Zn.

CONCLUSIONS

1. The Andrus-Atlantic-Lee zone is the southeasterly continuation of a zone of mineralized fractures which were very productive in the Telluride district. A similar zone, several thousand feet to the north of the East Ridge property, is now being mined successfully at a rate of about 800 tons per day. The geologic setting and the moderate success of the limited exploration done on the Andrus-Atlantic-Lee zone indicate that further exploration in the area between the R. E. Lee adit and the Andrus workings is warranted and may develop significant quantities of lead-zinc ore.

2. The proposed exploration from the R. E. Lee adit will expose the Andrus-Atlantic-Lee zone to the southeast of, and about 400 feet below the ore shoot exposed in the Atlantic drift. Since the strong northeast faults, previously mentioned, displace each fault block downward progressively toward the southeast, it is possible that the proposed exploration will expose the fracture zone in the upper part of the San Juan tuff--a very favorable ore horizon.

3. The examining team believes that this exploration program should be considered as the first stage of an extensive program which should have as its objective the exploration of the Andrus-Atlantic-Lee zone, in the area beneath and to the northwest of the Atlantic drift (fig. 3). The extension of the program, through several successive stages, may well lead to the development of a large tonnage of lead-zinc ore.

RECOMMENDATIONS

The proposed exploration program submitted by the East Ridge Company appears satisfactory. Minor changes have been made by the U. S. Bureau of Mines in the estimated cost figures and the time required to complete the work. The revised estimates allow 7 months and $45,917.00, (Government participation $22,958.50), for rehabilitation of the R. E. Lee adit, 600 feet of drifting and 400 feet of diamond drilling. It is recommended, for reasons outlined in the conclusions of this report, that the application of the East Ridge Company, DMEA Docket 2675, be approved.

REFERENCES

Burbank, W. S., Structural control of ore deposition in the Red Mountain, Sneffels, and Telluride districts of the San Juan Mountains, Colo.: Colorado Sci. Soc. Proc., Vol. 14, No. 5, 1941.

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 2675, R. E. Lee Mine, East Ridge Company

Ouray County, Colorado

Lead-Zinc

Russell R. McLellan, Mining Engineer
Bureau of Mines

E. N. Harshman, Geologist
U. S. Geological Survey

December 12, 1952

DMEA 2675

R. E. LEE MINE
EAST RIDGE COMPANY
OURAY COUNTY, COLORADO

Summary, Conclusions, and Recommendations

By Russell R. McLellan
Mining Engineer
Bureau of Mines

and

E. N. Harshman
Geologist
U. S. Geological Survey

DMEA 2675

R. E. LEE MINE
EAST RIDGE COMPANY
OURAY COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By Russell R. McLellan and E. N. Harshman

The East Ridge Company, 633 South Shatto Place, Los Angeles, Calif., has applied to the Government for assistance to explore for lead and zinc on the R. E. Lee claim, Ouray County, Colo. The company has proposed a program of drifting and diamond drilling to prospect for veins within a zone that has been extremely productive several thousand feet to the northwest. The company estimated the total cost to be $47,470.39 for a period of 5 months. The cost has been reduced to $45,917.00 and the exploration period has been increased to 7 months. The Government's share of the revised estimated cost will be $22,958.50.

The R. E. Lee claim and the Atlantic claim to the northwest lie along what has been shown by Burbank to be a continuation of the Smuggler Union-Ajax-Ida-Columbia fissure zone. On the surface, these fissures cut rocks of the Silverton volcanic series, but they undoubtedly extend downward into the San Juan tuffs. Ore shoots occur where minor fissures diverge, both along their dip and strike, from the major zone.

In the vicinity of the R. E. Lee claim, the fissure zone is not well defined, but on the Atlantic claim to the northwest a 40-foot ore shoot has been developed.

Geologically, the area between the R. E. Lee adit and the Andrus workings, some 5,000 feet to the northwest, appears to

offer excellent possibilities for the development of lead-zinc ore bodies of considerable size. The rather limited exploration proposed by the East Ridge Company should be considered as the first stage of a more extensive program that will eventually explore the more favorable ground between the R. E. Lee adit and the Andrus workings.

The company is well financed, well staffed, and operates with a maximum of efficiency. Sufficient equipment, facilities, and manpower can be obtained to complete the project successfully. Should this program prove encouraging, the company is willing to invest additional capital to explore further and develop the Atlantic area to the northwest.

The following exploration program is recommended for approval:

1. Bulldozing for snow removal
2. Construct approximately 3/4 mile of road
3. Construct one change house
4. Rehabilitate 460 feet of the R. E. Lee tunnel
5. Extend the R. E. Lee tunnel a total of 600 feet
6. Diamond drill a total of 400 feet from the R. E. Lee tunnel

DMEA 2675

R. E. LEE MINE
EAST RIDGE COMPANY
OURAY COUNTY, COLORADO

Engineering Report

By Russell R. McLellan
Mining Engineer
Bureau of Mines

DMEA 2675

R. E. LEE MINE
EAST RIDGE COMPANY
OURAY COUNTY, COLORADO

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Mineable ore reserve	4
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ILLUSTRATIONS

Figure	Follows Page
1. Location map, R. E. Lee mine, Ouray County, Colorado	2
2. Plan map of R. E. Lee and Atlantic workings, Ouray County, Colorado	*
3. Claim map, Robert E. Lee mine, Ouray County, Colorado	15

*See figure following geologic report.

DMEA 2675

R. E. LEE MINE
EAST RIDGE COMPANY
OURAY COUNTY, COLORADO

ENGINEERING REPORT

By

Russell R. McLellan

INTRODUCTION

The East Ridge Company, of Los Angeles, Calif., has applied for assistance to explore for lead and zinc on the R. E. Lee claim, Red Mountain Mining District, Ouray County, Colo. The company proposes to explore for vein extensions by driving the R. E. Lee tunnel an additional 600 feet and by diamond drilling 400 feet of transverse holes from the tunnel at a total estimated cost of $47,470.39.

E. N. Harshman, of the U. S. Geological Survey, and Russell R. McLellan, of the Bureau of Mines, examined the property in September 1952 and are in agreement with the company proposals but take exception to certain expenditures, some of which are believed to be unnecessary while others are believed to be underestimated. The revised estimated cost is $45,917.00. The Government's share of the cost will amount to $22,958.50.

ACKNOWLEDGMENTS

Francis H. Frederick, consulting geologist to the East Ridge Company, accompanied the examining engineer and geologist on a surface and underground tour of the property. All necessary information was supplied by Federick during the examination.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The R. E. Lee claim and tunnel are approximately 1 road mile west of the summit of Red Mountain Pass, Ouray County, Colorado (fig. 1). A steep temporary mine road leads to the portal from U. S. Highway 550 on the summit of the pass. The tunnel is at an altitude of 11,650 feet and is expected to be isolated by deep snow drifts for several months of each year. With a new road from U. S. Highway 550, the mine will be readily accessible during the summer and early fall.

Supplies may be obtained at Ouray, 13 miles away, or at Silverton, 11 miles away. Heavy equipment will have to be trucked from Grand Junction, Colo., or from Denver. Sufficient water is available for mining and for diamond drilling. Gasoline-powered equipment will be used as electric power is not available at the mine. Miners are available locally and will commute from Ouray and Silverton.

HISTORY AND PRODUCTION

The early history of the R. E. Lee mine is unknown. It is obvious by inspection, however, that little or no production has come from the tunnel. Apparently, the past purpose of the tunnel, as now, was to explore for several veins believed to extend onto the R. E. Lee claim. The tunnel was abandoned before encountering any veins of economic value.

OWNERSHIP

All exploration will be confined to the following claims:

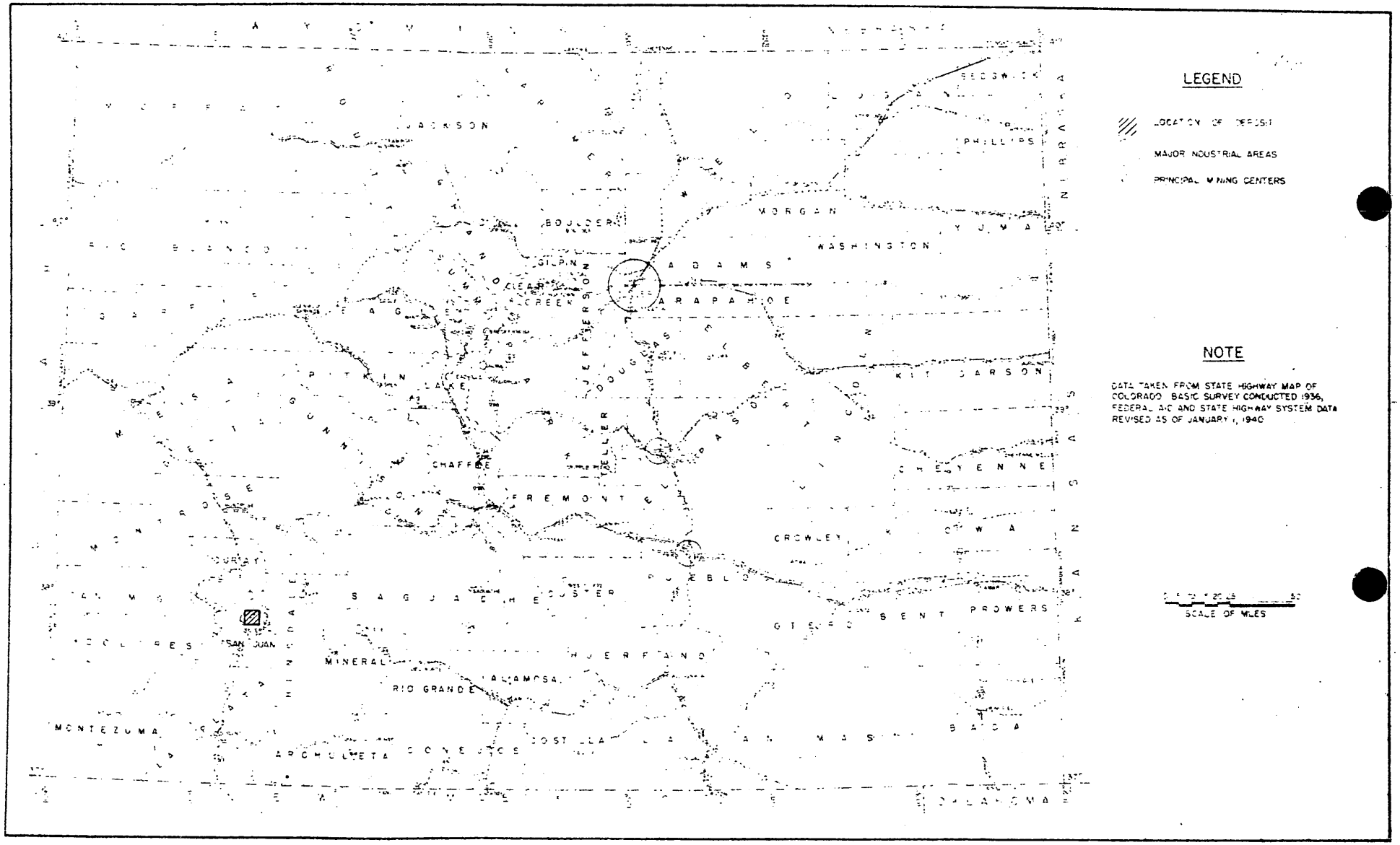

Figure 1. Location map, R. E. Lee mine, Ouray County, Colorado, DMEA 2675.

R. E. Lee ----------Survey No. 16935
Atlantic No. 3 ----------Survey No. 16935
Atlantic No. 5----------Survey No. 18545
Columbine----------Survey No. 16935

The above claims are owned by the applicant company and by the West Shore Company, of California, on a 50 percent basis. According to the operating agreement included with the application, the East Ridge Company has under lease the 50 percent interest owned by the West Shore Company.

DESCRIPTION OF THE DEPOSIT

It should be stressed that this project is strictly exploration in an area that has experienced little exploration or development in the past. Indications of the presence of a system of ore-bearing veins which may connect with those of the Andrus system make the area extremely attractive for exploration from the R. E. Lee tunnel. By extending the tunnel and by diamond drilling into the walls it may be possible to locate the extension of two or more steeply dipping, ore-bearing veins that crop out on the Atlantic claim approximately 1200 feet to the west and approximately 450 feet higher in elevation. With the exception of information derived from a few surface cuts and from the short Atlantic drift, nothing is known of the extent of lead-zinc mineralization in these veins on the east side of the mountains. Encouraging discoveries are being made on the west or Andrus side of the mountain. Should the veins and mineralization prove to be more or less continuous, a long range program of exploration and development definitely will be initiated by the Company.

MINEABLE ORE RESERVE

There appears to be no ore reserve whatsoever in the R. E. Lee tunnel. The Atlantic drift contains an inferred reserve of approximately 500 tons of ore averaging 3.6 percent lead and 4.7 percent zinc.

PRESENT STATUS

The R. E. Lee tunnel is 550 feet long, of which 460 feet will be utilized as an approach to the area to be explored. The tunnel is open to the breast but will need complete rehabilitation with respect to track, pipe, and timber. On the examination date, no facilities or equipment were on the property. The portal is accessible only by a steep, rough, temporary road.

PROJECT PROPOSALS, WITH COSTS

The East Ridge Company proposes to rehabilitate 460 feet of the R. E. Lee tunnel, drive 200 to 300 feet to cross a faulted area, diamond drill 400 feet of holes to locate the Atlantic vein, extend the tunnel to the vein, and drift northwest until the maximum allowable footage of 600 feet is attained (fig. 3). The project should be completed within 7 months. Detailed costs are as follows:

Project 1
Bulldozer work for snow removal

Bulldozer Work

150 hours at $10.00 per hour, including operator $ 1,500.00

Project 2
Road construction - approximately 3/4 mile

Bulldozer Work

50 hours at $10.00 per hour, including operator $ 500.00

Labor and Supervision

Labor:			
2 - Surface men for drilling and blasting, 12 shifts each at $1.75 per hour, including overtime	$364.00		
1 - Mechanic, estimated 2 shifts at $1.75 per hour	28.00	$ 392.00	
Supervision:			
1 - Supervisor at $600.00 per month, prorated		200.00	$ 592.00

Operating Materials and Supplies

Explosives, caps, fuse	$ 200.00	
Drill steel and bits	150.00	
Compressor fuel and oil	50.00	
Vehicle fuel and oil	30.00	
Small tools	40.00	
Other supplies	80.00	550.00

Operating Equipment

Depreciation:		
1 - Jackhammer, 1 week	$ 2.00	
1 - Compressor, 1 week	28.00	
2 - Jeeps, 1 truck, prorated	10.00	40.00

Miscellaneous

Equipment repair	$ 50.00	
Social security	10.00	
Workmen's compensation	18.00	
Freight	50.00	
Accounting at $150.00 per month, prorated	37.00	165.00

Total cost of road construction $ 1,847.00

Project 3
Construct change house

Labor

1 - Carpenter, 1 week at $1.75 per hour, including overtime	$ 91.00	
1 - Helper, 1 week at $1.50 per hour, including overtime	78.00	$ 169.00

Materials and Supplies

Lumber	$ 261.00	
Other supplies	25.00	286.00

Miscellaneous

Social security	$ 2.50		
Workmen's compensation	5.50		
Accounting, $150.00 per month, prorated	37.00	$ 45.00	
Total cost of change house			$ 500.00

Project 4
Rehabilitate 460 feet of tunnel

Labor and Supervision

Labor:			
2 - Miners, 28 shifts each at $1.75 per hour, including overtime	$ 840.00		
2 - Timbermen, 29 shifts each at $1.75 per hour, including overtime	882.00		
1 - Combined mechanic-carpenter-repairman, 25 shifts at $1.75 per hour, including overtime	378.00	$2,100.00	
Supervision:			
1 - Superintendent, approximately 1 month at $600.00 per month, prorated		400.00	$2,500.00

Operating Materials and Supplies

Timber	$1,540.00	
Pipe, air, water, vent	920.00	
Rail, ties, bolts, spikes, plates	690.00	
Compressor fuel and oil	50.00	
Vehicle fuel and oil	50.00	
Small tools	75.00	
Other supplies	150.00	3,475.00

Operating Equipment

Purchase:			
5 - Mine cars at $100.00 each, prorated	$ 20.00		
1 - Air trammer, $2,500.00, prorated	500.00		
1 - Blower, with engine, $300.00, prorated	60.00	$ 580.00	
Depreciation:			
1 - Mucking machine for 1 month	$ 50.00		
1 - Compressor, prorated	90.00		
2 - Jeeps, 1 - truck, prorated, 1 month	70.00	210.00	790.00

Miscellaneous

Social security	$ 41.00		
Workmen's compensation	83.00		
Freight	150.00		
Accounting, prorated	76.00	$ 350.00	
Total cost of rehabilitation			$ 7,115.00

Project 5

Drift 600 feet and cut drill station

Labor and Supervision

Labor:			
Contract at $16.00 per foot, including tramming labor and overtime	$10,400.00		
1 - Combined mechanic-carpenter-repairman, 5 months at $1.75 per hour, including overtime	1,972.00	$12,372.00	
Supervision:			
1 - Superintendent, 5 months at $600.00 per month	$ 3,000.00		
1 - Engineer-geologist, 10 shifts at $50.00	500.00	3,500.00	$15,872.00

Operating Materials and Supplies

Timber	$ 700.00	
Explosives, caps, fuse	2,400.00	
Pipe, air, water, vent	1,200.00	
Track, spikes, bolts, plates, ties	900.00	
Compressor fuel and oil	600.00	
Vehicle fuel and oil	538.00	
Drill steel and bits	1,200.00	
Small tools	200.00	
Other supplies	1,500.00	9,238.00

Operating Equipment

Purchase:			
1 - Rock drill, complete with accessories and pneumatic leg	$ 600.00		
5 - Mine cars (used) at $100.00 each, prorated cost	460.00		
1 - Air trammer, $2,500.00, prorated cost	1,750.00		
1 - Blower, with engine, $300.00, prorated cost	200.00		
1 - Water pressure tank, with fittings	25.00	$3,035.00	
Depreciation:			
1 - Loader, 5 months at $50.15	$ 251.00		
1 - Compressor, 5 months at $118.13	591.00		
2 - Jeeps, 1 - pickup, 5 months at $79.58	398.00	1,240.00	$4,275.00

Miscellaneous

Equipment repair	$ 600.00	
Sampling and analysis	80.00	
Social security	238.00	
Workmen's compensation	466.00	
Freight	300.00	
Accounting, 5 months at $150.00 per month	750.00	2,434.00
Total cost of drift		$31,819.00

Project 6
400 feet of diamond drilling

Labor and Supervision

Labor:		
1 - Driller, 28 shifts at $2.00 per hour, including overtime	$ 485.00	
1 - Helper, 28 shifts at $1.75 per hour, including overtime	425.00	$ 910.00

Supervision:				
1 - Superintendent, $600.00 per month, prorated amount	$ 300.00			
1 - Engineer-geologist, $50.00 per day, 5 days	250.00	$ 550.00	$1,460.00	
Operating Materials and Supplies				
Compressor fuel		$ 100.00		
Vehicle fuel		75.00		
Core boxes, 15 at $4.00 each		60.00		
Diamond loss at $1.00 per foot		400.00		
Other supplies		125.00	760.00	
Operating Equipment				
Purchase:				
2 - Mine cars (used) at $100.00 each, prorated cost	$ 20.00			
1 - Air trammer, $2,500.00, prorated cost	250.00			
1 - Blower, with engine, prorated cost	40.00	$ 310.00		
Depreciation:				
1 - Compressor, 1 month	$ 118.00			
2 - Jeeps, 1 - pickup, 1 month	79.00			
1 - Diamond drill rig, 1 month	59.00	256.00	566.00	
Miscellaneous				
Equipment repairs		$ 50.00		
Sampling and analysis		20.00		
Social security		29.00		
Workmen's compensation		51.00		
Freight		50.00		
Accounting, $150.00 per month		150.00	350.00	
Total cost of diamond drilling				$ 3,136.00
Total cost of exploration				$45,917.00

Summary of Costs

(1) Contracts

Bulldozing for snow removal, 150 hours at $10.00 per hour, including operator	$ 1,500.00		
Bulldozing for road construction, 50 hours at $10.00 per hour, including operator	500.00	$ 2,000.00	
Drifting, 600 feet at $16.00 per foot, including tramming labor and overtime, cutting of drill station included		10,400.00	
Total contracts			$12,400.00

(2) Labor and Supervision

Labor:

Road construction:			
2 - Men, drilling and blasting, 12 shifts at $1.75 per hour, including overtime	$ 364.00		
1 - Mechanic, estimated 2 shifts at $1.75 per hour	28.00	$ 392.00	
Construct change house:			
1 - Carpenter, 1 week at $1.75 per hour, including overtime	$ 91.00		
1 - Helper, 1 week at $1.50 per hour, including overtime	78.00	169.00	
Rehabilitate 460 feet of tunnel:			
2 - Miners, 28 shifts each at $1.75 per hour, including overtime	$ 840.00		
2 - Timbermen, 29 shifts each at $1.75 per hour, including overtime	882.00		
1 - Combined mechanic-carpenter-repairman, 25 shifts at $1.75 per hour, including overtime	378.00	2,100.00	
Drift 600 feet: (Miners and trammers are under drift contract.)			
1 - Combined mechanic-carpenter-repairman, 5 months at $1.75 per hour, including overtime		1,972.00	

Diamond drill 400 feet:			
1 - Driller, 28 shifts at $2.00 per hour, including overtime	$ 485.00		
1 - Helper, 28 shifts at $1.75 per hour, including overtime	425.00	$ 910.00	
Total labor			$ 5,543.00
Supervision:			
Road construction:			
1 - Superintendent, $600.00 per month, prorated amount		$ 200.00	
Rehabilitate 460 feet of tunnel:			
1 - Superintendent, $600.00 per month, prorated amount		400.00	
Drift 600 feet:			
1 - Superintendent, $600.00 per month, 5 months	$3,000.00		
1 - Engineer-geologist, 10 days at $50.00 per day	500.00	3,500.00	
Diamond drill 400 feet:			
1 - Superintendent, $600.00 per month, prorated amount	$ 300.00		
1 - Engineer-geologist, 5 days at $50.00 per day	250.00	550.00	
Total supervision			4,650.00
Total labor and supervision			$10,193.00

(3) Operating Materials and Supplies

Item	Road	Change House	Rehabilitation	Drift	Drilling	Total
Timber		$261.00	$1,540.00	$ 700.00		$ 2,501.00
Explosives	$200.00			2,400.00		2,600.00
Pipe			920.00	1,200.00		2,120.00
Rail			690.00	900.00		1,590.00
Steel and bits	150.00			1,200.00		1,350.00
Compressor fuel	50.00		50.00	600.00	$100.00	800.00
Vehicle fuel	30.00		50.00	538.00	75.00	693.00
Small tools	40.00		75.00	200.00		315.00
Core boxes					60.00	60.00
Diamond loss					400.00	400.00
Other	80.00	25.00	150.00	1,500.00	125.00	1,880.00
Totals	$550.00	$286.00	$3,475.00	$9,238.00	$760.00	
Total operating materials and supplies						$14,309.00

(4) Operating Equipment

Purchase:

1 - Rock drill, with leg and accessories		$ 600.00	
5 - Mine cars (used) at $100.00 each, cost prorated to:			
Rehabilitation	$ 20.00		
Drift	460.00		
Drilling	20.00	500.00	
1 - Air trammer, cost prorated to:			
Rehabilitation	$ 500.00		
Drift	1,750.00		
Drilling	250.00	2,500.00	
1 - Blower, with gas engine, cost prorated to:			
Rehabilitation	$ 60.00		
Drift	200.00		
Drilling	40.00	300.00	
1 - Water pressure tank, with fittings		25.00	
Total equipment purchase			$ 3,925.00

Depreciation:

1 - Jackhammer		$ 2.00	
1 - Compressor, 310 c.f.m., cost prorated to:			
Road	$ 28.00		
Rehabilitation	90.00		
Drift	591.00		
Drilling	118.00	827.00	
1 - Mucking machine, cost prorated to:			
Rehabilitation	$ 50.00		
Drift	251.00	301.00	
2 - Jeeps, 1 - pickup, cost prorated to:			
Road	$ 10.00		
Rehabilitation	70.00		
Drift	398.00		
Drilling	79.00	557.00	
1 - Diamond drill rig		59.00	
Total equipment depreciation			1,746.00
Total for operating equipment			$ 5,671.00

(5) Miscellaneous

Item	Road	Change House	Rehabilitation	Drift	Drill	Total
Equipment repair	$ 50.00			$ 600.00	$ 50.00	$ 700.00
Sampling				80.00	20.00	100.00
Social security	10.00	$ 2.50	$ 41.00	238.00	29.00	320.50
Workmen's Compensation	18.00	5.50	83.00	466.00	51.00	623.50
Freight	50.00		150.00	300.00	50.00	550.00
Accounting	37.00	37.00	76.00	750.00	150.00	1,050.00
Totals	$165.00	$45.00	$350.00	$2,434.00	$350.00	

Total miscellaneous costs $3,344.00

Total cost of exploration $45,917.00

Unit Costs

Project	Total Cost	Unit Cost
1. Snow removal	$ 1,500.00	$1,500.00 per job
2. Construct road	1,847.00	1,847.00 per job
3. Construct change house	500.00	500.00 per job
4. Rehabilitate 460 feet of drift	7,115.00	15.46 per foot
5. Drift 600 feet	31,819.00	53.03 per foot
6. Diamond drill 400 feet	3,136.00	7.84 per foot

CONCLUSIONS

The proposed exploration should provide definite information concerning the northern extension of a portion of the Andrus group of veins which is being extensively explored and developed by the East Ridge Company. Should favorable indications of ore be encountered,

additional exploration will be advisable in the area. The possibility of encountering ore probably will be more favorable as drifting progresses westward toward the Atlantic claim where low-grade ore is exposed. Under the present program, the exploration will not be sufficient to reach a point directly below the Atlantic workings. Enough information, however, should be obtained to determine the advisability of continued exploration from the R. E. Lee level.

It is believed that the company underestimated the amount of time necessary to complete the program. The time schedule, therefore, has been extended to 7 months and the total cost has been revised to $45,917.00.

RECOMMENDATIONS

It is recommended that the following projects be approved to comprise an exploration program for the R. E. Lee claim.

1. Bulldozing for snow removal
2. Construct approximately 3/4 mile of road
3. Construct one change house
4. Rehabilitate 460 feet of the R. E. Lee tunnel
5. Extend the R. E. Lee tunnel a total of 600 feet
6. Diamond drill a total of 400 feet from the R. E. Lee tunnel

MF-103
(Revised April 1952)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 25 1952

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. DMEA-2675
Metal or Mineral
Date Received 8-25-52
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: East Ridge Company
633 S. Shatto Place
Los Angeles 5, California

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Lode mining claim known as R. E. Lee, part of Survey No. 16935, situated in Red Mountain Mining District, Ouray County, Colorado.

(*b*) State any mine name by which the property is known. R.E. Lee

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise East Ridge Company owns 50% undivided interest. Remaining 50% under lease.

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it No liens or encumbrances

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. No unpatented claims.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

5. *The exploration project.*—(a) State the mineral or minerals for which you will to explore .....

.....

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

(*b*) How do you propose to furnish your share of the costs?

☐ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated August 18, 1952

EAST RIDGE COMPANY
(Applicant)

By Carlton E. Byrne
President

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—66551-1

East Ridge Company
633 S. Shatto Place
Los Angeles 5, California

Attachment to Form MF-103

APPLICATION FOR AID IWAN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED.

1. (b) Colorado corporation.

(c) Carlton E. Byrne, President
F.Moldenhauer, Vice-President
Lloyd M. Smith, Secretary

3. (d) Executed duplicate of Operating Agreement attached to original of this application.

4. (a) The existing mine workings consist of a tunnel some 550' long, of which 460' can be used as an approach to the area to be explored. This tunnel has been opened to its face and examined. No ore shows within the tunnel; there are a number of faults exposed which are about in line with the erosional troughs at the surface. Near the face of the tunnel is a strong cross fault which is probably the same fault followed by the inaccessible part of the near-by Columbine tunnel. From 380 to 460 feet in, the Lee tunnel bears directly west and follows a gougy fault or fracture for the last 50 feet of that section. It is possible that the gougy fracture is a part of the Atlantic system of fractures and veins even though it shows no ore. The strong cross fault near the face (referred to above) is about 80 feet beyond the last place where the possible Atlantic fracture is seen in the tunnel. East of the cross fault there are many more cross faults; in fact the area is so chopped up with faults running in various directions that it is unlikely that any sizeable ore shoots could be developed in that section. The cross fault near the face may well be the westerly edge of the chopped up block, since the next known fault west of the face of the Lee tunnel is about 700 feet away.

The Lee tunnel is now reached by a road from the Sunrise Cabin in Mineral Basin, although it is proposed to build a more direct road from a point on the present road nearer the State Highway. The Lee tunnel is now accessible for examination.

The Lee tunnel and other workings referred to herein are shown on the accompanying Plan of the Atlantic-Lee-Columbine area.

(b) There has apparently never been any pnoduction from the Lee tunnel.

(c) East Ridge Company recently filed application for an exploration

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project on the Atlantic claim for the purpose of determining the position of ore shoots beyond the present face of the Atlantic tunnel (elev. 12,100'). At the suggestion of the D.M.E.A. field team said application was held in abeyance pending opening and examination of the Lee and Columbine tunnels by the company geologist. As a result the company is substituting this application for a project at a lower elevation and has withdrawn the Atlantic application.

Results of the examination were briefly these: The R. E. Lee tunnel was opened to its face and has been described under 4 (a) above. The Columbine tunnel was opened for 180 feet from the portal, where a cave-in makes further reopening infeasible. No ore was seen underground in the Columbine tunnel although there are a great number of fragments of high grade lead ore with some zinc in the mine dump at the portal. The presently inaccessible part of the Columbine tunnel is about 320 feet long and bears S60°W, according to the old Patent Survey. There are a number of erosional troughs at the surface in the area that strike southwesterly, and it is assumed that these are faults that have some effect on the mineralization in the veins crossed by them. One such trough lies directly above the inaccessible part of the Columbine tunnel, and is now thought that the ore on the dump must have come from the section along the corresponding fault now caved. It seems likely that ore mineralization has spread out along the fault from the Atlantic vein system, which is the main vein of the general area as far as can be seen now, and which is the object of the presently proposed exploration.

The Columbine tunnel, while unsuitable for use as an approach to the Atlantic vein system, has yielded information which, when combined with known features of the Atlantic area and of the Lee tunnel (described above) can serve as a guide for exploration beyond the present workings. It is now thought that there may be a sizeable ore shoot not far ahead of the face of the Lee tunnel on the Atlantic vein. Information at the Atlantic tunnel 400 feet higher in elevation and 900 feet distant laterally along the vein system shows that there are at least two veins striking toward the general area of the face of the Lee tunnel. Advance of the Lee tunnel 200 or 300 feet in a westerly direction from a point about 90 feet from the present face would provide a good position for exploration right and left by diamond drilling.

As a part of the recent examination, a surface cut was made by bulldozer to attempt to find one of the Atlantic veins at

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about 200 feet west of the end of the Lee tunnel. Bed rock was not reached, but at the bottom of the cut about 12 feet below the surface the soil and gravel was very dark, probably due to iron oxides and manganese. It is believed that vein mineralization is not far below this surface cut.

The known Atlantic ore block at the Atlantic tunnel lies between two faults about 600 feet apart. It is believed that there will be substantial ore bodies at the elevation of the Lee tunnel (11,690 feet) below the present Atlantic tunnel area between the two faults there. To explore that area from the Lee tunnel would require about 1400 feet of drifting and some diamond drilling. However, it is felt that the present project should be limited to a portion of this lateral work, say 600 feet, plus diamond drilling to guide the drifting after 200 or 300 feet of advance to a favorable drilling position.

Accompanying illustrations are (1) General Plan of the Atlantic-Lee-Columbine area, showing faults and vein systems as well as the position of the proposed extension of the Lee tunnel and drilling therefrom.

(2) Vertical Section-Projection of the Atlantic Vein, Lee Project, showing elevation of the Atlantic tunnel, the Lee tunnel, and a possible future long tunnel for production at a level still lower than the Lee.

(d) The project is accessible by road from Red Mountain Pass on Highway 550. Shipping points are Ouray and Silverton, 15 and 11 miles, respectively, by road from the project. About one mile of the road is private and unpaved. Supplies are available at Ouray and Silverton, and workmen live at these towns and commute daily to the company operations.

(e) Manpower is available locally. Materials, supplies and equipment needed for the project are all available locally, or in special circumstances from Denver. Water is abundant on the property. Electric power lines cross the property not far from the project, but it is planned to use gasoline-powered equipment for this project. All general small equipment is available. Larger equipment will be purchased or rented from the company on a depreciation basis, with provision for outside rental of a mucking machine. Company equipment rented on a depreciation basis will be assigned between this project and the present Andrus project (Contract E-39) and charged pro-rata, so that only the allowable maximum will be charged to both projects.

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Attachment to Form MF-103 - Page 4.

5. (a) Lead in galena, zinc in sphalerite, copper in chalcopyrite, and silver and gold.

(b) The two maps attached hereto and described under 4 (c) show the location and details of the project. The Lee tunnel is to be extended 600 feet westerly from a point about 90 feet from the face. After about 200 or 300 feet of advance, 200 feet of diamond drilling is proposed in each direction transversely, making a total of 400 feet of core drilling. The objective of the project is not 600 feet of drifting plus 400 feet of drilling as such, but location of the Atlantic vein or veins in the Lee area. Enough evidence may be gained short of 600 feet of drifting to make further advance on the Lee level infeasible. Similarly, the vein or veins may be located even in several places, with less than the proposed total of 400 feet of core drilling.

Preparatory work consisting of about 220 feet of retimbering of the old tunnel will be necessary, in addition to the usual requirements for clean-up of old workings. However, since even a new tunnel from another position in this area would probably require considerable timbering also, the total cost of the Lee rehabilitation will be far less than the same footage for a new tunnel designed to reach the same objective.

(c) The work will start within 10 days of the notification of granting of the exploration contract, and will be completed within five operating months from the start. It is impossible to determine the total elapsed time required, due to unpredictable weather conditions. However, it is virtually certain that the operating season in the Lee area will be 2-3 months longer than in the Andrus area, now under exploration by this company. It is considered that various operating advantages will arise from the combination of two projects, one on the east slope (Lee) and one on the less easily accessible west slope (Andrus) of the San Miguel-Ouray county divide.

(d) East Ridge Company was organized and commenced mining exploration in 1948. The company is at present engaged in exploration on the so-called Andrus Claim in the Upper San Miguel mining district under DMEA Contract No. E-39. The general superintendent is Arthur E. Dirrim, who has been operating mines since about 1919 and has held similar positions for large operations during the past 16 years. The consulting geologist, Francis H. Frederick, has been widely engaged in mining geological work since 1930 in the Western United States.

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633 S. Shatto Place
Los Angeles 5, California

Attachment to Form MF-103 - Page 5.

6. Estimate of Costs.

(a) Independent contracts

Bulldozer work for road construction and seasonal snow cleaning, shutdown and re-opening
200 hrs. @ $10.00 — $2,000.00

(Note.-Application is also being made under equipment purchase for used bulldozer. If this machine is acquired, a portion of above contract will not be needed, and dozer operator's wages at local prevailing rates will be substituted.)

(b) Labor

(1) Clean-up of drift - 460 feet
Mucking labor - 2 men
14 shifts each @ $1.75 per hr. — $392.00
Overtime premium, 2 shifts each @ $.875 — 28.00

Total Clean-up labor — 420.00

(2) Timbering, existing Lee tunnel - 220 feet
2 men - 29 shifts each @ $1.75 per hr. — $812.00
Overtime premium, 5 shifts each @ $.875 — 70.00

Total Timbering labor — 882.00

(Note.-Wages for timbering may be paid at contract rates averaging $4 per foot.)

(3) Track and pipe laying, existing Lee tunnel (includes air, water & fan pipe, drilling plugs & back) - 2 men - 14 shifts each @ $1.75 per hr. — $392.00
Overtime premium, 2 shifts each @ $.875 — 28.00

Total Track and pipe laying labor — 420.00

East Ridge Company
633 S. Shatto Place
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(4)	Advancing tunnel - 600 feet Contract rates $16 per foot including tramming labor	$9,600.00	
	Overtime premium on above	800.00	
	Total drifting labor		$10,400.00
	(Note.-Tunnel advance includes cutting station for diamond drilling)		
(5)	Drilling - 400 feet Driller @ $2.00 per hr. Helper @ $1.75 per hr. 28 shifts each	750.00	
	Overtime premium on above	60.00	
	Total drilling labor		810.00
(6)	Roadbuilding labor - drilling & blasting - 2 men 12 shifts each @ $1.75 per hr.	336.00	
	Overtime premium on above	28.00	
	Total road building labor		364.00
(7)	Maintenance mechanic - carpenter - repairman - 1 man, full time 5 mo. 125 shifts @ $1.75 per hr.	1,750.00	
	Overtime premium	140.00	
	Total maintenance labor		1,890.00

Supervision

Superintendent @ $500.00 per month plus subsistence allowance $100.00 per month - 5 months @ $600.00	3,000.00

(Note.-When Andrus and Lee projects are being operated simultaneously, superintendent's wages will be divided between them pro rata.)

Total labor and supervision	$18,186.00

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Engineer - Geologist
15 days @ $50.00 $ 750.00
Distribution: Drifting $500.00
Drilling 250.00

(c) Operating material and supplies

	Road	Clean-up	Drift Advance	Drilling	Total
Explosives	200.00		2,400.00		2,600.00
Operating fuel	50.00		600.00	100.00	750.00
Timber		1,540.00	700.00		2,240.00
Pipe -air, water, ventilation		920.00	1,200.00		2,120.00
Rail, ties, spikes, bolts		690.00	900.00		1,590.00
Water pressure tank & fittings			25.00		25.00
Other supplies, including bits & steel, vehicle fuel & maintenance, general supplies	300.00	300.00	3,438.00	200.00	4,238.00
Core boxes 15 @ $4.00				60.00	60.00
Diamond loss @ $1.00 per foot				400.00	400.00
Totals	$550.00	$3,450.00	$9,263.00	$760.00	$14,023.00

(d) Operating Equipment

Purchase:

1 used bulldozer	$4,000.00
1 drill machine with leg and accessories	600.00
5 mine cars (used) @ $100.00 each	500.00
1 air trammer	2,500.00
1 blower and gas engine	300.00
Total equipment purchase	$7,900.00

Furnished by operator

1 mucking machine - cost	$3,009.00	
1 315 compressor "	7,130.00	
2 jeeps, 1 pick-up "	4,775.00	
1 underground diamond drill rig, -cost	3,515.00	
Total cost of equipment furnished		18,429.00

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(d) Continued — Brought Forward 18,429.00

Depreciation @ 1/60 - per month 307.15
4 months @ $307.15: total depreciation $1,228.60

(Note.-It is assumed that on completion of the present Andrus project the company will be required to make settlement for the equity now owned by the government in (1) mucking machine; and (2) pick-up truck. Until that time, of course, the depreciation figure developed above by these two pieces of equipment will not be charged. Also, simultaneously, depreciation on other equipment will be pro-rated between the two in order to avoid duplication of charges.)

(e) Rehabilitation and Repairs: None

(f) Buildings, etc.

Change house $500.00
(Includes labor, material and supplies)

(g) Miscellaneous

	Road	Clean-up	Drift Advance	Drilling	Total
Equipment repair	50.00		600.00	50.00	700.00
Sampling analysis			80.00	20.00	100.00
Payroll Taxes (SS)	9.15	41.85	192.87	19.92	263.79
Comp. Ins.	18.00	82.00	380.00	39.00	519.00
Freight & Hauling	50.00	150.00	300.00	50.00	550.00
Accounting & Management (5 mo.@ $150.)	42.00	199.50	420.00	88.50	750.00
	$169.15	$473.35	$1,972.87	$267.42	$2,882.79

(Note.-When Andrus and Lee projects are being operated simultaneously, "Accounting and Management" will be divided between them pro rata.)

(h) Contingencies: All the above cost figures are estimates based on the company's experience in operating in this area. Provision for contingencies has been made in the cost estimate for each item where applicable (i.e. timber for drift advance in case of bad ground). If rises in the locally prevailing pay rates take place, the estimated hourly pay must be adjusted to meet them. It is believed that sufficient man-shifts have been provided to cover such an eventual adjustment.)

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Recapitulation of Cost Distribution:

	Purchases	Road	Clean-up	Drift	Drilling	Total
Bulldozing		2,000.00				2,000.00
Labor & Supervision		637.84	3,022.74	13,138.40	1,387.02	18,186.00
Geology				500.00	250.00	750.00
Operating materials & supplies		550.00	3,450.00	9,263.00	760.00	14,023.00
Equipment Purchase	7,900.00					7,900.00
Depreciation		44.45	211.12	645.05	327.98	1,228.60
Building	500.00					500.00
Miscellaneous		169.15	473.35	1,972.87	267.42	2,882.79
Totals	8,400.00	3,401.44	7,157.21	25,519.32	2,992.42	47,470.39

(Note.- In the above recapitulation, Supervision and Maintenance have been pro-rated to the various operations, according to estimated man-shifts involved in each.)

Total cost of drifting, including share of supervision, geology, management and accounting, cutting drill stations, etc. $25,519.32

Unit cost for 600' of drifting $42.53 per foot.

Total cost of clean-up of old Lee tunnel, including rail, pipe, fan pipe, re-timbering, etc. $7,152.71

Unit cost for 460' of rehabilitation $15.55 per foot

Total cost of diamond core drilling $2,992.42

Unit cost for 400' of drilling $7.48 per foot

The overall cost of reconditioning the old Lee tunnel and advancing 600 feet, yielding total usable underground work of 1060 feet of drift (including all road work, seasonal snow clearance, re-opening and shut-down, all incidental costs and excluding only equipment purchased and diamond drilling) totals $36,077.97

Overall unit cost for 1060 feet of tunnel $34.04 per foot

This unit cost is not excessive for the area, even without considering the fact that the projected work entails many initial costs which will not be repeated in any further exploration which may be based in the immediate vicinity of the

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Lee tunnel. For example, further advance of the Lee tunnel, if indicated by the findings of this project, to a point directly below the known Atlantic ore shoots, could be carried out at a lower unit cost.

Certain enonomies will inevitably be effected in carrying out the Lee project. For instance, if a bulldozer is purchased, a considerable portion of the $2,000.00 budgeted for bulldozing by contractor will be saved. Conversely, if the company is unable to locate a bulldozer for the estimated cost of $4,000.00, this expenditure will be saved, although the budget for bulldozing by contractor will then be used up.

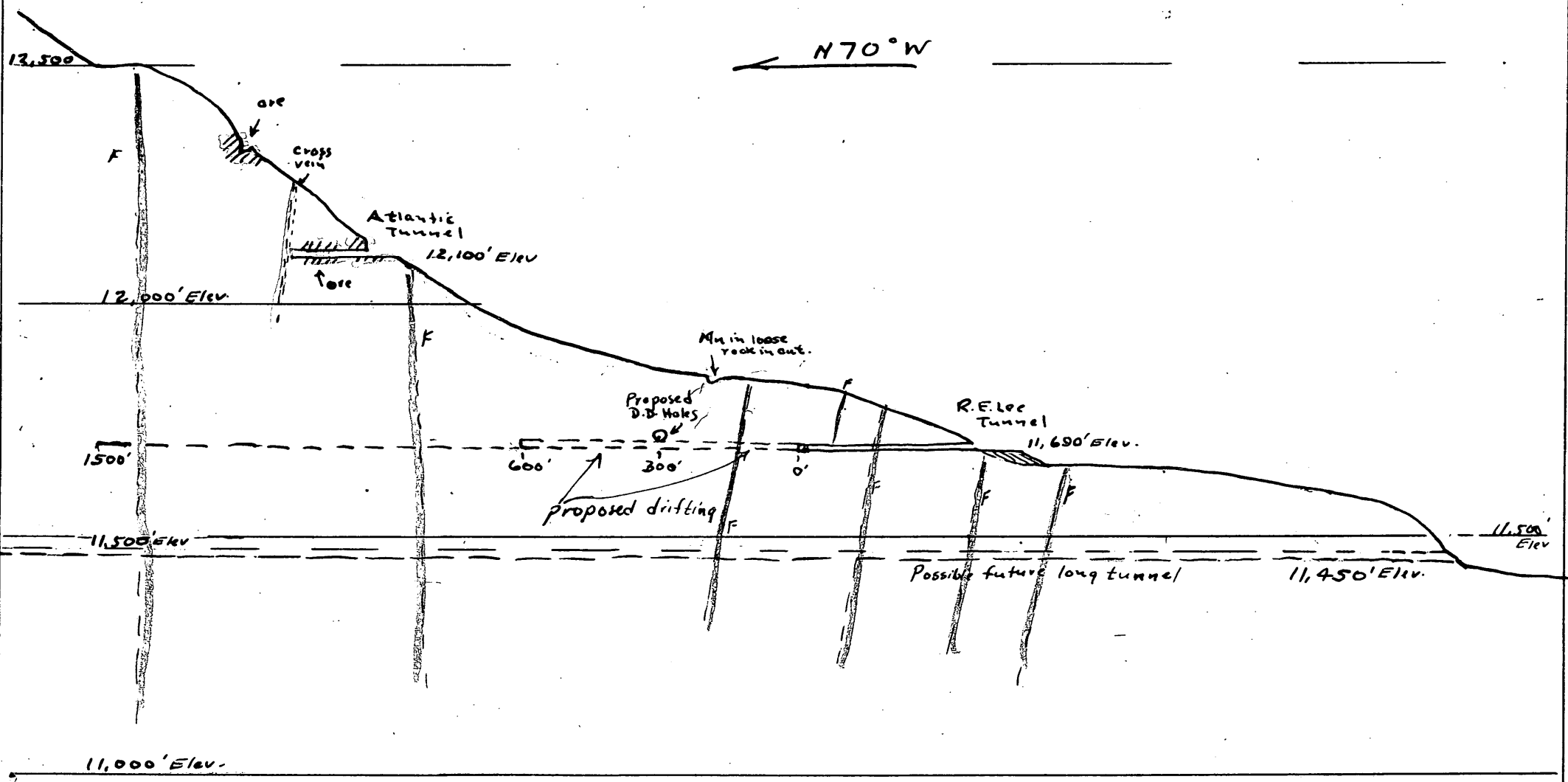
If the Lee project is approved and commenced before the October shut-down of the Andrus project, considerable saving in supervision, management and accounting, and depreciation on equipment will be made.

7. (a) The company is prepared to furnish its share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1.).

(b) The company proposes to furnish its share of the costs

(1) By advancing the full cost of the operation until partially reimbursed by loan, except for

(2) Use of equipment listed under 6 (d): Furnished by Operator, with depreciation charged to project as estimated thereunder.



Vertical Section - Projection
Atlantic Vein, Lee Project
Atlantic - Lee - Columbine Area
Scale 1" = 300' Aug 7, 1952
F.H.F.

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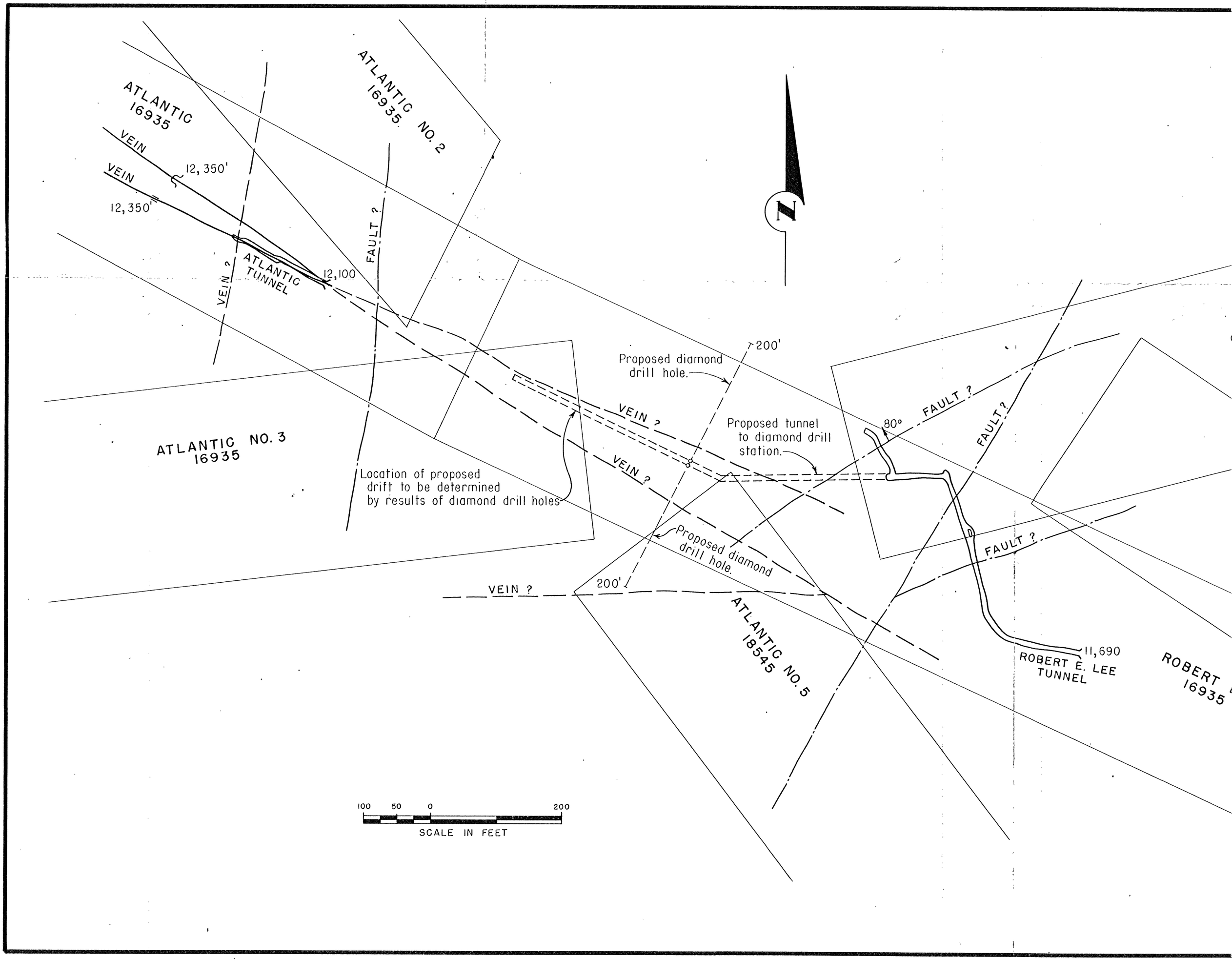
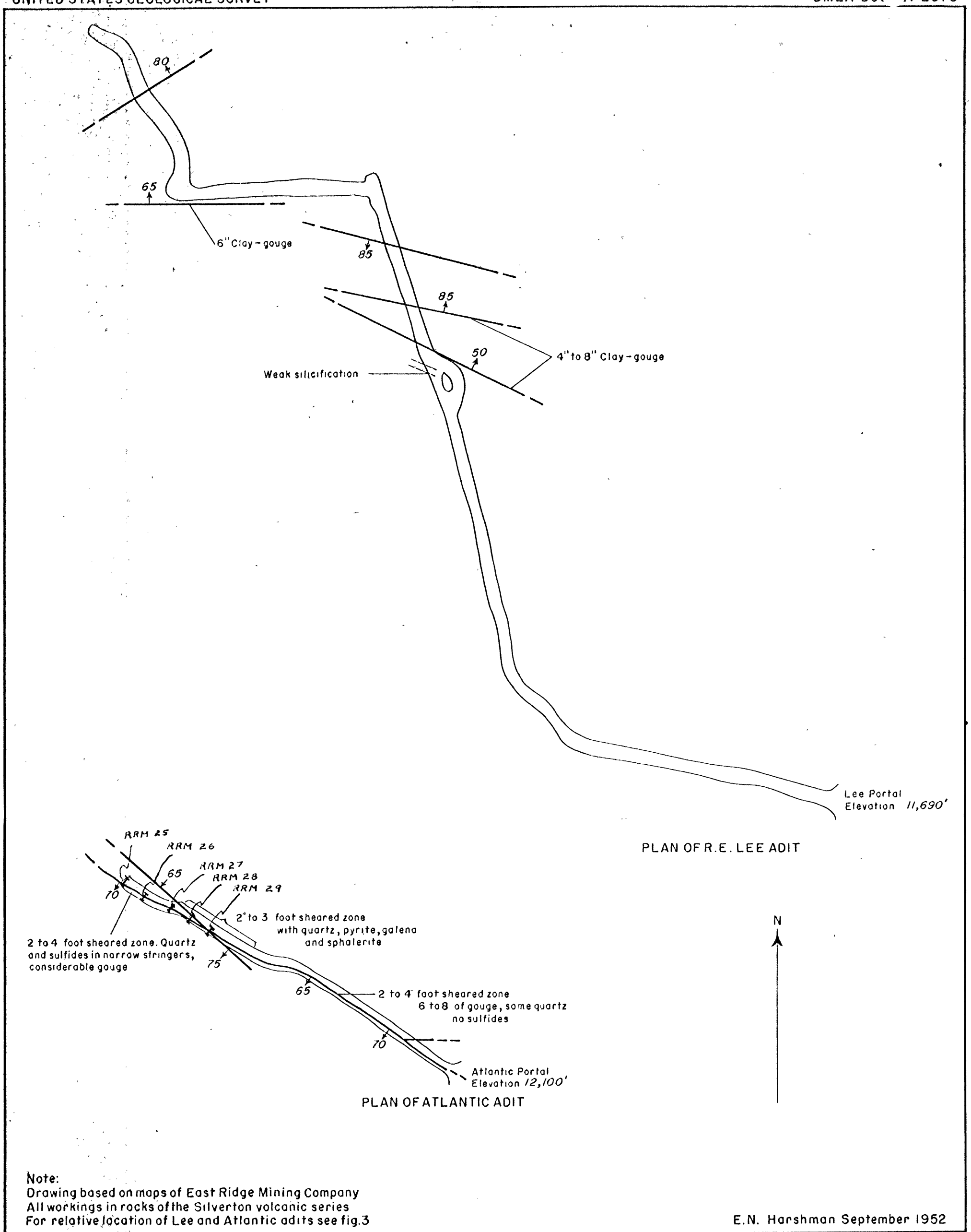


FIGURE 3 - CLAIM MAP, ROBERT E. LEE MINE, OURAY COUNTY, COLORADO, DMEA 2675



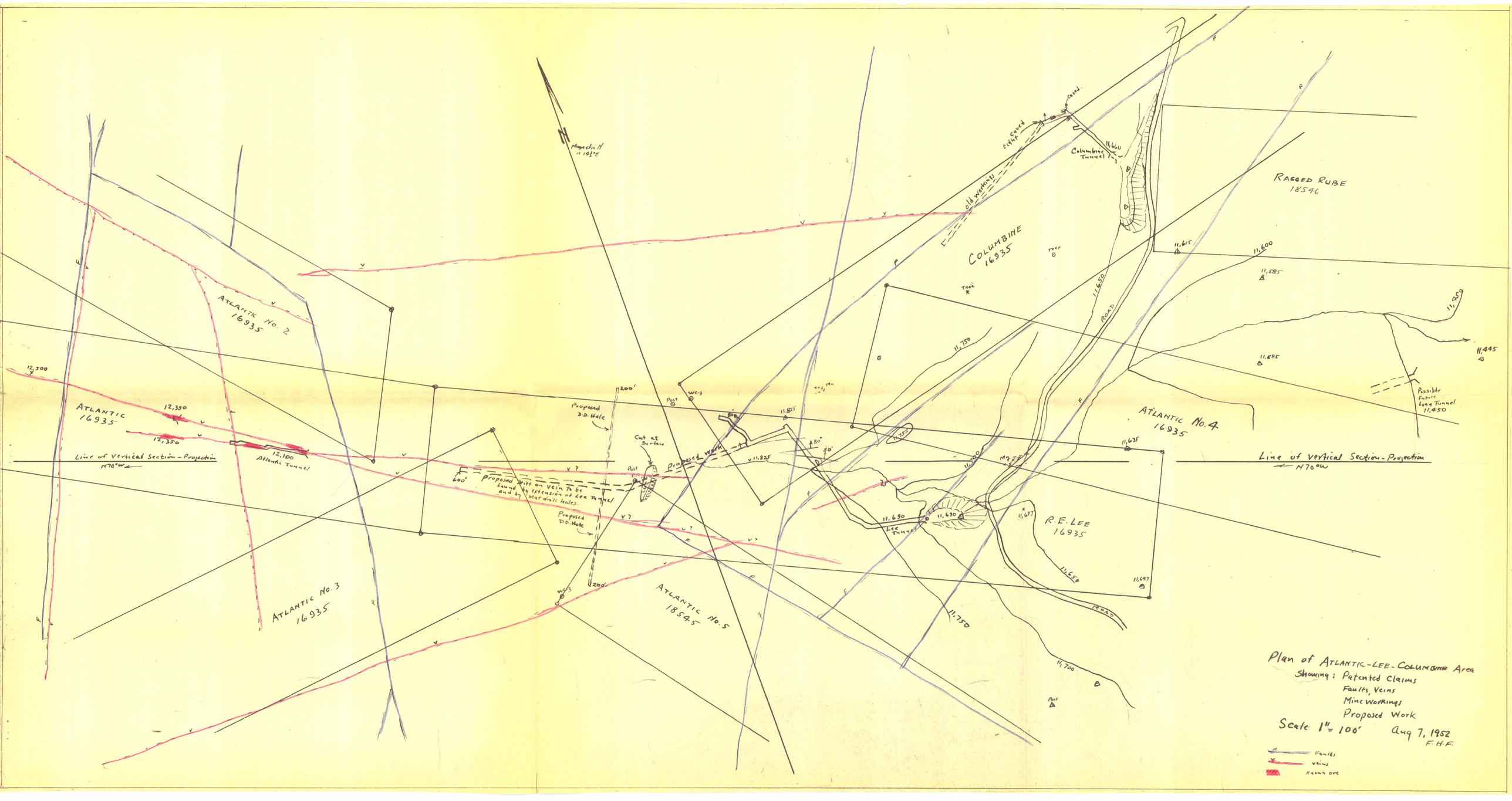
Note:
Drawing based on maps of East Ridge Mining Company
All workings in rocks of the Silverton volcanic series
For relative location of Lee and Atlantic adits see fig.3

E.N. Harshman September 1952

EAST RIDGE MINING COMPANY OURAY, COUNTY, COLORADO

Figure 2

40 0 40 80 120 FEET


Plan of ATLANTIC-LEE-COLUMBINE Area
Showing: Patented Claims
Faults, Veins
Mine Workings
Proposed Work
Scale 1" = 100'
Aug 7, 1952
F.H.F.
Faults
Veins
Known ore
Magnetic N 11 1/2° E
ATLANTIC No. 2
16935
ATLANTIC
16935
ATLANTIC No. 3
16935
ATLANTIC No. 5
18545
COLUMBINE
16935
ATLANTIC No. 4
16935
R.E. LEE
16935
RAGGED RUBE
18546
Line of Vertical Section - Projection
N70°W
Atlantic Tunnel
Proposed D.D. Hole
Cut at Surface
Proposed work
Proposed work on vein to be found by extension of Lee Tunnel and by scattered holes.
Lee Tunnel
Columbine Tunnel
old workings
Road
Possible Future Long Tunnel
11,450
12,300
12,350
12,100
11,825
11,690
11,630
11,750
11,700
11,615
11,600
11,585
11,635
11,445
11,459
11,697
11,687
11,650
11,660
200'
600'
80°
50°