DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 624X

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Routing Slip

To: Coord Comm Date 7/13/51

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

FILE COPY
SURNAME:

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

Moulds
McKnight
Bishop
Wyerhill
Wagner
Robinson

DEC 2 6 1951

Mr. Barney Dennison, Pres.
East Humbolt Mines Company
Room 211, 206 N. Virginia Street
Reno, Nevada

Re: Docket No. DMA 624
Henrietta Mine

Dear Mr. Dennison:

With reference to your application of May 16, 1951 for exploration project assistance and revised project, proposing 300 feet of drift and 250 feet of raising, the Government has made a detailed study of the data submitted by you, and also, all geological and field data presently available. We find that prior exploration conducted on the No. 3 level and No. 3½ level has not indicated the presence of worthwhile mineralization in the mine area. Your proposal to drift from the No. 3½ level toward the fault and raise to the No. 3 level therefore does not appear to be sufficiently supported by geological evidence to substantiate the possibility of making a discovery which would result in a worthwhile production of base metal. Your application for exploration project assistance under Mineral Order 5 is therefore denied.

We appreciate the opportunity to review your project in the interest of strategic mineral discovery and ultimate production, and regret that it does not fulfill the requirements for Government participation.

Sincerely yours,

C. O. Mittendorf (for)

Acting Administrator
Defense Minerals Exploration
Administration

DEMoulds/meh
12/13/51
cc to: Adm. Reading File 12-24
Mails and Files
Mr. Mittendorf
Mr. Moulds
Mr. Bishop
Mr. McKnight
Region III
Docket

FILE COPY 500
SURNAME:

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

Moulds

December 13, 1951

Memorandum

To: Mr. C. O. Mittendorf, Acting Administrator

From: D. E. Moulds

Subject: Recommendation for denial of exploration project application Docket No. DMA 624, East Humbolt Mines Co., Reno, Nevada

The applicant filed under date of February 2, 1951 for a Government loan in the amount of $150,000 for the purchase of mining and milling equipment, and working capital to bring a lead-zinc mine into full production.

A field examination of the property on April 11-13, 1951 found that insufficient reserve of ore had been developed to warrant a development loan. The applicant was informed of the field conclusion and also of the exploration program. The applicant accordingly filed on May 16, 1951 for an exploration project participation loan in the amount of $30,000. This application was referred to the field team for clarification of estimated costs for the project. The revised application was returned to the Commodity Branch by Region III on August 9, 1951.

The property, situated in Pershing County, Nevada, consists of a mine reportedly discovered in the 1870's and worked intermittently since then for high grade shipping ore, and reportedly, several thousand tons were shipped. During the last 3½ years the subject company built a small gravity concentrating plant and reportedly shipped 1,000 tons of concentrate.

The mine has been developed by means of three tunnel levels from the surface with several small stopes, and raises, and by a winze and sub-level below the No. 3 tunnel. The tunnels have followed a fissure in the bedding planes and parallel to the schist. The old stopes are relatively small, of narrow width and on a flat dip of 25° - 30°.

The proposed exploration consists of 300 feet of drifting from the present face of the No. 3½ sublevel toward the fault, and two raises, 250 feet total, to explore between the No. 3½ sublevel and No. 3 tunnel level. The present development and proposed work is shown on attached sketch.

Discussion of Project: The field team during the examination sampled all of the faces and various places on the fissure zone in the drifts and stopes. Thirty-nine samples were taken which averaged 32-inches ore width, 0.169 oz. gold per ton, 6.43 oz. silver per ton, 2.02% lead and 1.45% zinc. The weighted average of area samples is shown on the attached sketch and listed as follows:

Area	Number Samples	Ave. Width Inches	Oz. Silver Per Ton	% Lead	% Zinc
No. 3 Tunnel	10	31	7.31	1.42	1.50
No. 3 Tunnel Stopes	4	25	4.53	0.73	0.66
No. 3-3½ Stope	7	41	11.54	5.37	3.43
No. 3½ Sublevel	7	31	1.47	0.13	0.89

It is noted that the best ore samples come from the ore chimney located near the portal of the No. 3 tunnel which extends through the No. 3½ sublevel; this ore shoot, however, is not in the area to be explored. The samples taken on the No. 3 tunnel and stopes do not indicate the presence of sufficient values to permit mining except by hand picking and high grading. The percentage of criticle metals, lead and zinc, is notably low in this area, and there does not appear to be any indication of better values in depth. The eastward extension of the fissure has evidently been cutoff by a fault which has been cut by the underground work on two levels and no mineralization found beyond the fault.

The field team has established a figure of 5100 tons of inferred ore for the entire mine. The area to be explored, 300-feet by 125-feet and 31-inch mineralized width, would contain approximately 8000 tons of material. Using the No. 3 tunnel weighted average of 1.42% lead and 1.50% zinc and the flotation test recoveries, the recoverable metal would be approximately 89 tons of lead and 90 tons of zinc.

Conclusion: The sampling of the present mine development tunnels and stopes indicates that mineralization has been spotty with the better grade ore occuring in small narrow areas which appear to be commercial only by selective mining on a very small scale. The ore has its main values in silver. To the east the mineralization is cutoff by faulting. The proposed exploration will explore only a small block of ground directly below the No. 3 tunnel which has not demonstrated any productive capacity for lead and zinc.

It is therefore recommended that the application be denied on the basis that present development, sampling, and geological evidence do not substantiate the possibility of the proposed exploration resulting in a worthwhile production of lead and zinc metal. It is also recommended that the attached letter of denial be sent to the applicant.

DEMoulds/hmj/meh
12-14-51

D. E. Moulds

cc to: Mails and Files
Mr. Moulds
Docket

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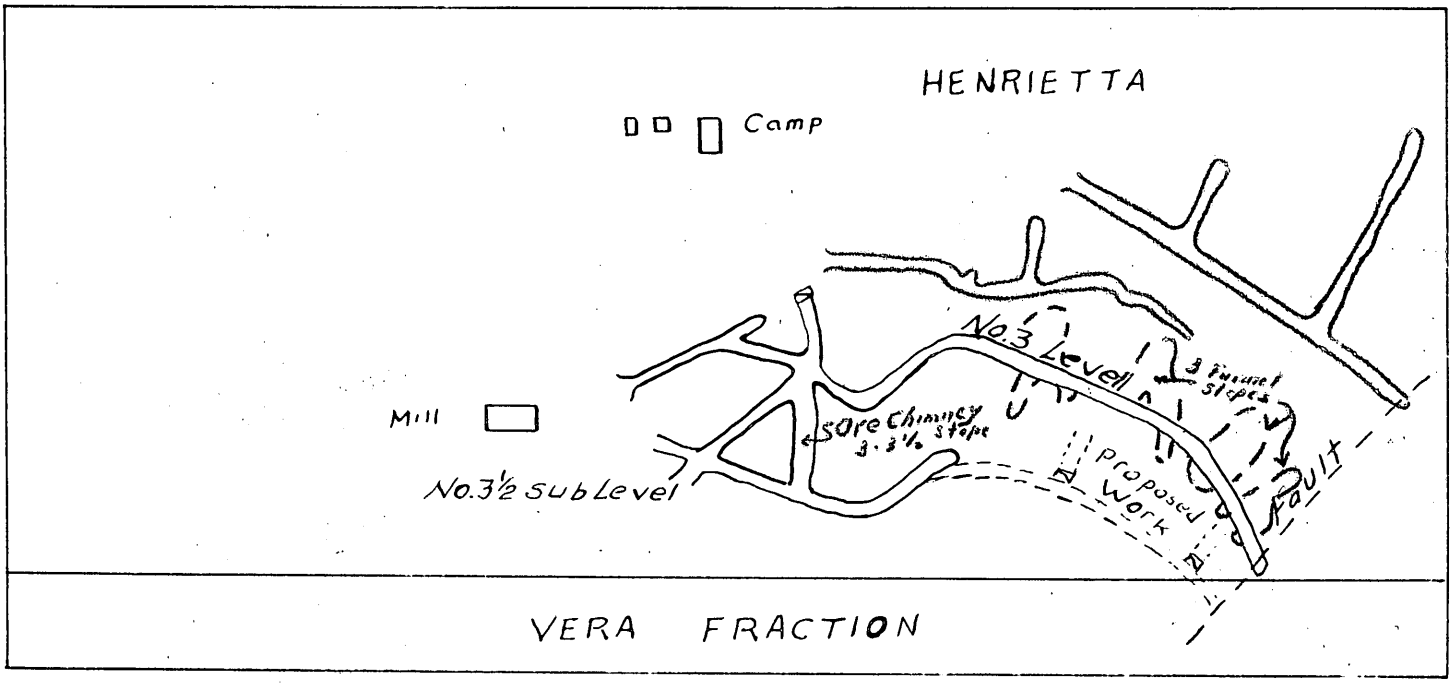

EAST HUMBOLDT MINES CO.

SCALE 1 inch = 200 Ft.

Proposed Work: 300 lineal ft. of 5ft. x 7ft. drift
2 raises (4' x 6') @ 125 lineal ft. each
Total project: 300 ft. drifting
250 ft. raises
550 ft.

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

December 13, 1951

Memorandum

To: Mr. C. O. Mittendorf, Acting Administrator

From: D. E. Moulds

Subject: Recommendation for denial of exploration project application Docket No. DMA 624, East Humbolt Mines Co., Reno, Nevada

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Conclusion: The sampling of the present mine development tunnels and stopes indicates that mineralization has been spotty with the better grade ore occuring in small narrow areas which appear to be commercial only by selective mining on a very small scale. The ore has its main values in silver. To the east the mineralization is cutoff by faulting. The proposed exploration will explore only a small block of ground directly below the No. 3 tunnel which has not demonstrated any productive capacity for lead and zinc.

It is therefore recommended that the application be denied on the basis that present development, sampling, and geological evidence do not substantiate the possibility of the proposed exploration resulting in a worthwhile production of lead and zinc metal. It is also recommended that the attached letter of denial be sent to the applicant.

D. E. Moulds

D. E. Moulds

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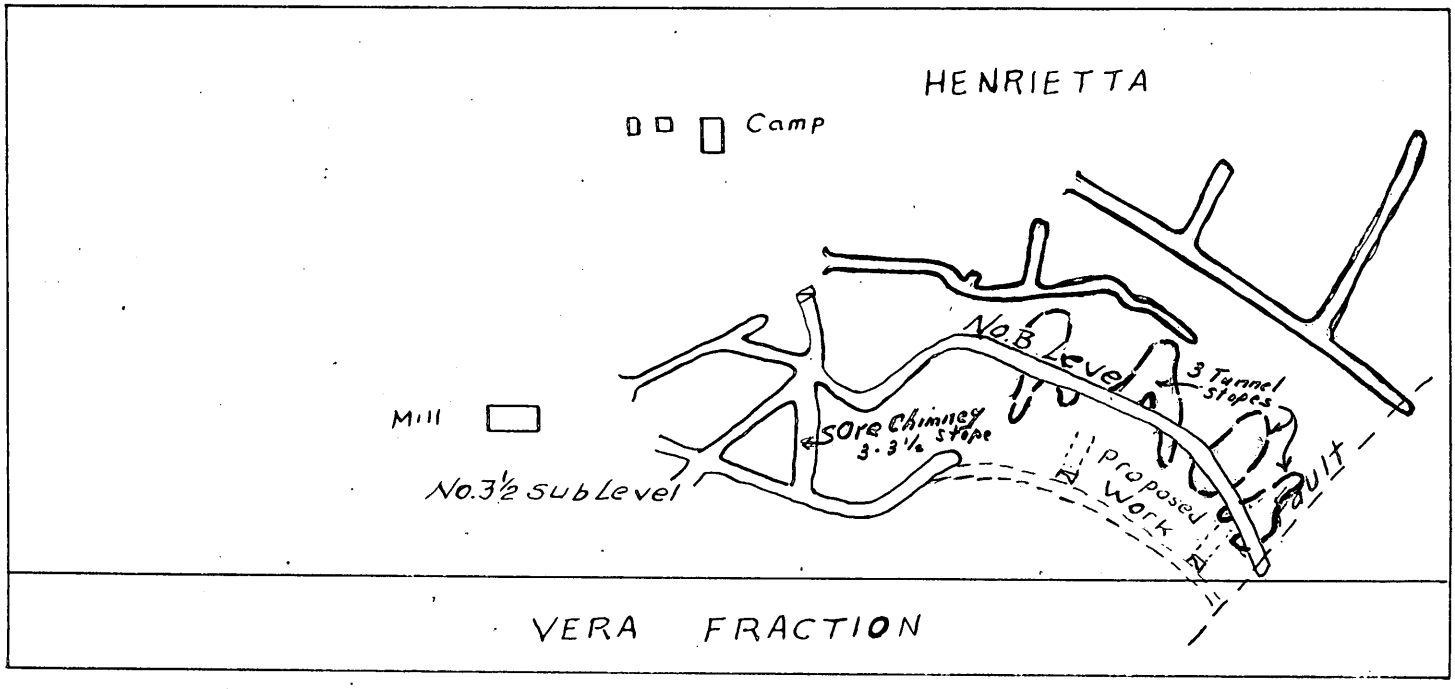

EAST HUMBOLDT MINES CO.

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2 raises (4' x 6') @ 125 lineal ft. each
Total project: 300 ft. drifting
250 ft. raises
550 ft.

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

Mr. H. C. Miller
Executive Officer, DMA Field Team
Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Dear Sir:

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

Docket No. 624X

Commodity Lead and Zinc

Applicant East Humboldt Mines Company, Room 211, N. Virginia Street, Reno, Nevada

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

Very truly yours,

Tom Lyon

Chairman
Coordinating Committee

Lowell B. Moon

For Bureau of Mines

Olaf N. Rove

For Geological Survey

UNITED STATES
DEPARTMENT OF THE INTERIOR
~~XXBUREAUXOFXMINESXX~~
~~XXREGIONXXXXXX~~
DEFENSE MINERALS ADMINISTRATION

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

~~XXXX415 APPRAISERS BLDG.~~
~~XXXX630 SANSOME STREET~~
~~XXXXSAN FRANCISCO 11, CALIF.~~

OFFICE OF
~~REGIONAL DIRECTOR~~
Executive Officer
DMA Field Team
Region III

August 9, 1951

Memorandum

To: Tom Lyon, Chairman, Coordinating Committee, Defense Minerals Administration, Washington, D. C.

From: Executive Officer, DMA Field Team, Region III

Subject: Docket DMA-624X - East Humboldt Mines Company, Room 211, North Virginia Street, Reno, Nevada -- Lead and Zinc.

Reference is made to your subject "Review of Application for Exploration Assistance", dated July 17, 1951, suggesting that a conference between the applicant and field team might result in an acceptable revision of the subject application.

Such a conference was arranged at the Mining Division in Reno, Nevada, with Mr. Barney Dennison, President of the East Humboldt Mines Company, when a revision was made in the company's application for a loan for the exploration of the Henrietta Mine in the Kennedy Mining District, Pershing County, Nevada.

Four copies of a letter from Mr. Dennison to Mr. A. C. Johnson, dated August 1, are attached, which give the details of the cost of the work proposed under the revised exploration program.

The complete subject docket is being returned herewith.

H. C. Miller
Executive Officer
DMA Field Team, Region III

Attachment

Copy to: E. H. Bailey, USGS

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 13 1951

AUG 15 1951

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia Street
Reno, Nevada

August 1, 1951

Mr. A. C. Johnson, Chief of Mining Division
U. S. Bureau of Mines
P.O. Box 1551
Reno, Nevada

Dear Sir:

We are hereby submitting a revised estimate of costs under Paragraph 23 in our supplement to Form MF-103, after carefully going over the estimates with yourself and Mr. Gentry, also of the Reno Office Bureau of Mines. We all noted that we had erroneously estimated equipment operating time on a full 8-hour shift basis whereas such will not be the case, which the corrected estimates below show. We have also itemized more completely and given a resume of totals.

PARAGRAPH 23

The following cost estimates are based on operating two shifts per day with a total agreed upon drift and raise footage to be accomplished of 550 feet. This is also based upon our ability to complete 4 feet of progress per shift or 8 feet per day. On this basis, it will require 70 working days of two shifts to complete the project.

a. Labor:

2-shift basis -- Per Work week of 6 days

		Per Wk.	Per Wk. 2 Shifts
2 Miners	@ $14.00 per day 5 days, $21.00 6th day	$ 91.00	$ 182.00
2 Muckers	$12.00 per day 5 days, $18.00 6th day	78.00	156.00
2 Hoist Men	$14.00 per day 5 days, $21.00 6th day	91.00	182.00
2 Trammers	$12.00 per day 5 days, $18.00 6th day	78.00	156.00
1 Topman	$14.00 per day 5 days, $21.00 6th day		91.00
1 Shifter	$15.00 per day 5 days, $22.50 6th day		97.50
1 Cook	$10.00 per day 5 days, $15.00 6th day		65.00
1 Cook Helper	$ 8.00 per day 5 days, $12.00 6th day		52.00
			$ 981.50

Average per-day cost for 2 shifts ($981.50 ÷ 6)		$163.58
Additional for industrial insurance, social security, compensation, etc. (estd. 10%)		16.36
		$179.94
Cost food supplies, 12 men @ $3.25	$39.00	
Less $2.25 board paid by 10 men (Cook and cook's helper board included)	22.50	
Net additional cost per day, 2 shifts, for food in excess of board collected	16.50	16.50
		$196.44

EAST HUMBOLDT MINES CO.
Reno, Nevada
August 1, 1951

PARAGRAPH 23 contd.

b. Supervisors: None

c. Cost of Equipment and Supplies for Cook House, Bath & Change Room, Cots and Mattresses:

Cooking utensils, dishes, cutlery for boarding house - estd.	$200.00
10 Cots and Mattresses, - estd.	100.00
Bath and change house fixtures and installation - estd.	500.00
Total estimated cost	$800.00

d. Cost additional Facilities: None

e. Cost Items of Equipment: None except noted in sub-paragraph "h" below.

f. Operator proposes to rent the following equipment on an operating per hour basis, including fuel, oil, grease, repair parts, batteries, and all supplies required, together with operator mechanic to start and maintain equipment so that it will be available for rental service hours when and as required.

Estimated Rental Hours Required Per Shift of 8 Hours

1	365 cu.ft. Compressor and Air Hoses	6 hrs. @	$6.95 =	$41.70
1	Drifter - Column - Bar	3 hrs. @	.70	2.10
1	Stoper	1 hr. @	.60	.60
1	Mine Skip	3 hrs. @	.25	.75
2	Mine Cars	6 hrs. @	.15	.90
1	Little Tugger Air Hoist & Cable	6 hrs. @	.50	3.00
1	Blower and Electric Motor	4 hrs. @	.20	.80
1	60KW Generator - Control Panels - Wiring, etc.	4 hrs. @	4.00	16.00
1	Pick-up Truck & Driver	2 hrs. @	3.00	6.00

per shift.....$71.85
X2
per day.....$143.70

No rental charge on pipe and track now installed.

g. Rental Value of Equipment Owned: None

h. The following equipment and supplies will be required for the project, most of which will be purchased within the first 30 days of the operation:

1 Hand Cross Cut Saw		$ 6.95
1 Timber Saw 3½'		9.00
250 Mine Rail Ties - red fir - 30¢ each		75.00
4 Miners Picks and Handles - $4.50 each		18.00
6 Shovels, hand - round point - long handle - $3.00 each		18.00
10 Miners Hard Hats - $7.00 each		70.00
1000' 20# Used Mine Rail Plates and Spikes (8,000#)	deld.	475.00
600' 2" Air Pipe - Galv. - $56.40 per C' -	$338.40)	
600' ½" Water Pipe- Galv.- $14.75 per C' -	88.50)	
Freight and hauling Pipe to mine	75.00)	501.90
3 - 2' pc. of 1" Hex Drill Steel, threaded and shanked -	$4.55 each	13.65
3 - 4' pc. of " "	6.10 each	18.30
3 - 6' pc. of " "	7.65 each	22.95
3 - 8' pc. of " "	9.40 each	28.20

Sub-total (carried forward to next sheet $1,256.95

EAST HUMBOLDT MINES CO.
Reno, Nevada
August 1, 1951

PARAGRAPH 24 contd.

RECAP

Total Expenditure 1st 4 weeks, 24 working days.....	$11,309.93
" " 2nd 4 weeks, 24 working days.....	8,770.08
" " 3rd 4 weeks, 24 working days.....	8,770.08
Allowance for unforeseen items of expense and labor....	1,149.91
Total cost for Exploration Project consisting of 550 feet of work.....	$30,000.00

(Cost per foot for all work in project - ($30,000.00 ÷ 550) $54.54)

Yours very truly

EAST HUMBOLDT MINES CO.

by Barney Dennison
Barney Dennison
President

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia Street
Reno, Nevada

August 1, 1951

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
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EAST HUMBOLDT MINES CO.
Reno, Nevada
August 1, 1951

PARAGRAPH 23 contd.

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Sub-total (carried forward to next sheet $1,256.95

EAST HUMBOLDT MINES CO.
Reno, Nevada
August 1, 1951

PARAGRAPH 23 contd.

h. Sub-total (carried forward from sheet 2)		$1,256.95
3 pcs. 7/8X30" Stoper Steel, threaded	@ $4.20 each	12.60
3 pcs. 7/8X48" " "	5.15 each	15.45
3 pcs. 7/8X66" " "	6.15 each	18.45
3 pcs. 7/8X84" " "	6.80 each	20.40
3 pcs. 7/8X102" "	8.35 each	25.05
3 Electric Flash Lights - 3 battery type	3.75 each	11.25
48 Electric Flash Light Batteries	.12½ each	6.00
10 Miners Cap Carbide Lamps #830 JustRite	2.15 each	21.50
200 Wedges	4.00 C	8.00
2 Miners Large Carbide Lamps #336 JustRite		3.00
1 pc. 350' 1/2" Hoist Cable	.142 ft.	49.70
2 Cap Crimpers	1.50 each	3.00
2 24" Stilson Wrenches	6.00 each	12.00
2 14" " Wrenches	3.25 each	6.50
24 Miscellaneous 1/2" & 2" Pipe Fittings	.50 each	12.00
2 Single Jacks and Handles 4#	2.50 each	5.00
2 Crow Bars	4.25 each	8.50
1 Double Jack and Handle		5.10
1 Used Anvil		10.00
1 Used Blower Forge		20.00
1 Sack 40# Charcoal		2.50
1 18" Crescent Wrench		9.70
1 12" Crescent Wrench		3.96
3 100' Sections 8" Mine-Vent Flex Tubing @ $71.95 per section with couplings and Hangers		215.85
1 50' Section "	@ 38.00	38.00
1 25' Section "	21.55	21.55
Total estd. cost		$1,822.01

NOTE: Drill Bits, Powder and other supplies estimated as follows:

Powder, per shift	$8.00	
Caps, per shift	.39	
Fuse, 100' per shift	1.35	
Bits, per shift	2.50	
Carbide, per shift	.40	
Total estd. per shift	$12.64	
2 shifts per day	X2	$25.28

i. Power included in Paragraph "f" above.

Water supply system now installed intact.

Other utilities included.

PARAGRAPH 24

The schedule for the project, based on two shifts per day operation, is approximately as follows:

[illegible] contd.

First 4 weeks

Initial Supplies per sub-paragraph "h" above.....$1,822.[illegible]1
Initial Equipment and Supplies for cook house, bath and change house, and bank house equipment, per sub-paragraph "e" above..... 800.00

Labor & Food supplies per day cost, 2 shifts per day, 8 feet of progress per day, 6 days per week, 4 weeks (less 3¼ days of first week in clean-up work preparing to start drifting)

Sub-paragraph "a" above - $196.44 per day, 24 days 4,714.56

Sub-paragraph "f" above - Equipment operating and maintenance $143.70 per day, 24 days 3,448.80

Sub-paragraph "h" above - Powder, caps, fuse, bits, carbide $12.64 per shift, $25.28 per day, 20-3/4 days..... 524.76

Total for 1st 4 weeks (estd. progress 20-3/4 actual mining days X 8' per day = 166 feet..... $11,309.93

(Cost per foot of progress 1st 4 weeks ($11,309.93 ÷ 166)— $68.13)

Next 4 weeks

Labor & Food supplies per day cost, 2 shifts per day, 8 feet of progress per day, 6 days per week, 4 weeks

Sub-paragraph "a" above - $196.44 per day, 24 days.....$4,714.56

Sub-paragraph "f" above - Equipment operating and maintenance $143.70 per day, 24 days..... 3,448.80

Sub-paragraph "h" above - Powder, caps, fuse, bits, carbide $12.64 per shift, $25.28 per day, 24 days... 606.72

Total for 2nd 4 weeks (estd. progress 24 days X 8' per day = 192 feet)..... $ 8,770.08

(Cost per foot of progress 2nd 4 weeks ($8,770.08 ÷ 192)— $45.68)

Next 4 weeks

Labor & Food supplies per day cost, 2 shifts per day, 8 feet of progress per day, 6 days per week, 4 weeks

Sub-paragraph "a" above - $196.44 per day, 24 days.....$4,714.56

Sub-paragraph "f" above - Equipment operating and maintenance $143.70 per day, 24 days..... 3,448.80

Sub-paragraph "h" above - Powder, caps, fuse, bits, carbide $12.64 per shift, $25.28 per day, 24 days. 606.72

Total for 3rd 4 weeks (estd. progress 24 days X 8' per day = 192 feet)..... $ 8,770.08

(Cost per foot of progress 3rd 4 weeks ($8,770.08 ÷ 192)— $45.68)

[illegible]
[illegible], [illegible]
[illegible] 1, 19[illegible]1

[illegible]

MEMO

Total Expenditure 1st 4 weeks, 24 working days.....	$11,309.93
" " 2nd 4 weeks, 24 working days.....	8,770.08
" " 3rd 4 weeks, 24 working days.....	8,770.08
Allowance for unforeseen items of expense and labor....	1,149.91
Total cost for Exploration Project consisting of 550 feet of work.....	$30,000.00

(Cost per foot for all work in project - ($30,000.00 ÷ 550) $54.54)

Yours very truly

EAST HUMBOLDT MINES CO.

by Barney Dennison
Barney Dennison
President

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia Street
Reno, Nevada

August 1, 1951

Mr. A. C. Johnson, Chief of Mining Division
U. S. Bureau of Mines
P.O. Box 1551
Reno, Nevada

Dear Sir:

We are hereby submitting a revised estimate of costs under Paragraph 23 in our supplement to Form MF-103, after carefully going over the estimates with yourself and Mr. Gentry, also of the Reno Office Bureau of Mines. We all noted that we had erroneously estimated equipment operating time on a full 8-hour shift basis whereas such will not be the case, which the corrected estimates below show. We have also itemized more completely and given a resume of totals.

PARAGRAPH 23

The following cost estimates are based on operating two shifts per day with a total agreed upon drift and raise footage to be accomplished of 550 feet. This is also based upon our ability to complete 4 feet of progress per shift or 8 feet per day. On this basis, it will require 70 working days of two shifts to complete the project.

a. Labor:

2-shift basis — Per Work week of 6 days

		Per Wk.	Per Wk. 2 Shifts
2 Miners	@ $14.00 per day 5 days, $21.00 6th day	$ 91.00	$ 182.00
2 Muckers	$12.00 per day 5 days, $18.00 6th day	78.00	156.00
2 Hoist Men	$14.00 per day 5 days, $21.00 6th day	91.00	182.00
2 Trammers	$12.00 per day 5 days, $18.00 6th day	78.00	156.00
1 Topman	$14.00 per day 5 days, $21.00 6th day		91.00
1 Shifter	$15.00 per day 5 days, $22.50 6th day		97.50
1 Cook	$10.00 per day 5 days, $15.00 6th day		65.00
1 Cook Helper	$ 8.00 per day 5 days, $12.00 6th day		52.00
			$ 981.50

Average per-day cost for 2 shifts ($981.50 ÷ 6)	$163.58
Additional for industrial insurance, social security, compensation, etc. (estd. 10%)	16.36
	$179.94
Cost food supplies, 12 men @ $3.25.....$39.00 Less $2.25 board paid by 10 men (Cook and cook's helper board included)..... 22.50	
Net additional cost per day, 2 shifts, for food in excess of board collected.. 16.50	16.50
	$196.44

EAST HUMBOLDT MINES CO.
Reno, Nevada
August 1, 1951

PARAGRAPH 23 contd.

b. Supervisors: None

c. Cost of Equipment and Supplies for Cook House, Bath & Change Room, Cots and Mattresses:

Cooking utensils, dishes, cutlery for boarding house - estd.	$200.00
10 Cots and Mattresses, - estd.	100.00
Bath and change house fixtures and installation - estd.	500.00
Total estimated cost	$800.00

d. Cost additional Facilities: None

e. Cost Items of Equipment: None except noted in sub-paragraph "h" below.

f. Operator proposes to rent the following equipment on an operating per hour basis, including fuel, oil, grease, repair parts, batteries, and all supplies required, together with operator mechanic to start and maintain equipment so that it will be available for rental service hours when and as required.

Estimated Rental Hours Required Per Shift of 8 Hours

1	365 cu.ft. Compressor and Air Hoses	6 hrs. @	$6.95 =	$41.70
1	Drifter - Column - Bar	3 hrs. @	.70	2.10
1	Stoper	1 hr. @	.60	.60
1	Mine Skip	3 hrs. @	.25	.75
2	Mine Cars	6 hrs. @	.15	.90
1	Little Tugger Air Hoist & Cable	6 hrs. @	.50	3.00
1	Blower and Electric Motor	4 hrs. @	.20	.80
1	60KW Generator - Control Panels - Wiring, etc.	4 hrs. @	4.00	16.00
1	Pick-up Truck & Driver	2 hrs. @	3.00	6.00

per shift.....$71.85
X2
per day.....$143.70

No rental charge on pipe and track now installed.

g. Rental Value of Equipment Owned: None

h. The following equipment and supplies will be required for the project, most of which will be purchased within the first 30 days of the operation:

1 Hand Cross Cut Saw			$ 6.95
1 Timber Saw 3½'			9.00
250 Mine Rail Ties - red fir - 30¢ each			75.00
4 Miners Picks and Handles - $4.50 each			18.00
6 Shovels, hand - round point - long handle - $3.00 each			18.00
10 Miners Hard Hats - $7.00 each			70.00
1000' 20# Used Mine Rail Plates and Spikes (8,000#)		deld.	475.00
600' 2" Air Pipe - Galv. - $56.40 per C' -	$338.40		
600' ½" Water Pipe - Galv. - $14.75 per C' -	88.50		
Freight and hauling Pipe to mine	75.00		501.90
3 - 2' pc. of 1" Hex Drill Steel, threaded and shanked -	$4.55	each	13.65
3 - 4' pc. of " "	6.10	each	18.30
3 - 6' pc. of " "	7.65	each	22.95
3 - 8' pc. of " "	9.40	each	28.20

Sub-total (carried forward to next sheet $1,256.95

EAST HUMBOLDT MINES CO.
Reno, Nevada
August 1, 1951

PARAGRAPH 23 contd.

h.	Sub-total (carried forward from sheet 2)		$1,256.95
3	pcs. 7/8X30" Stoper Steel, threaded	@ $4.20 each	12.60
3	pcs. 7/8X48" " "	5.15 each	15.45
3	pcs. 7/8X66" " "	6.15 each	18.45
3	pcs. 7/8X84" " "	6.80 each	20.40
3	pcs. 7/8X102" "	8.35 each	25.05
3	Electric Flash Lights - 3 battery type	3.75 each	11.25
48	Electric Flash Light Batteries	.12½ each	6.00
10	Miners Cap Carbide Lamps #830 JustRite	2.15 each	21.50
200	Wedges	4.00 C	8.00
2	Miners Large Carbide Lamps #336 JustRite		3.00
1	pc. 350' 1/2" Hoist Cable	.142 ft.	49.70
2	Cap Crimpers	1.50 each	3.00
2	24" Stilson Wrenches	6.00 each	12.00
2	14" " Wrenches	3.25 each	6.50
24	Miscellaneous 1/2" & 2" Pipe Fittings	.50 each	12.00
2	Single Jacks and Handles 4#	2.50 each	5.00
2	Crow Bars	4.25 each	8.50
1	Double Jack and Handle		5.10
1	Used Anvil		10.00
1	Used Blower Forge		20.00
1	Sack 40# Charcoal		2.50
1	18" Crescent Wrench		9.70
1	12" Crescent Wrench		3.96
3	100' Sections 8" Mine-Vent Flex Tubing @ $71.95 per section with couplings and Hangers		215.85
1	50' Section "	@ 38.00	38.00
1	25' Section "	21.55	21.55
	Total estd. cost		$1,822.01

NOTE: Drill Bits, Powder and other supplies estimated as follows:

Powder, per shift	$8.00	
Caps, per shift	.39	
Fuse, 100' per shift	1.35	
Bits, per shift	2.50	
Carbide, per shift	.40	
Total estd. per shift	$12.64	
2 shifts per day	X2	$25.28

i. Power included in Paragraph "f" above.

Water supply system now installed intact.

Other utilities included.

PARAGRAPH 24

The schedule for the project, based on two shifts per day operation, is approximately as follows:

[illegible]
[illegible], Hawaii
August 3, 1951

Paragraph 2b contd.

First 4 weeks

Initial Supplies per sub-paragraph "h" above.....$1,822.01
Initial Equipment and Supplies for cook house, bath and change house, and bunk house equipment, per sub-paragraph "c" above..... 800.00

Labor & Food supplies per day cost, 2 shifts per day, 8 feet of progress per day, 6 days per week, 4 weeks (less 3½ days of first week in clean-up work preparing to start drifting)

Sub-paragraph "a" above - $196.44 per day, 24 days 4,714.56

Sub-paragraph "f" above - Equipment operating and maintenance $143.70 per day, 24 days 3,448.80

Sub-paragraph "h" above - Powder, caps, fuse, bits, carbide $12.64 per shift, $25.28 per day, 20-3/4 days..... 524.56

Total for 1st 4 weeks (estd. progress 20-3/4 actual mining days X 8' per day = 166 feet..... $11,309.93

(Cost per foot of progress 1st 4 weeks ($11,309.93 ÷ 166)— $68.13)

Next 4 weeks

Labor & Food supplies per day cost, 2 shifts per day, 8 feet of progress per day, 6 days per week, 4 weeks

Sub-paragraph "a" above - $196.44 per day, 24 days.....$4,714.56

Sub-paragraph "f" above - Equipment operating and maintenance $143.70 per day, 24 days..... 3,448.80

Sub-paragraph "h" above - Powder, caps, fuse, bits, carbide $12.64 per shift, $25.28 per day, 24 days... 606.72

Total for 2nd 4 weeks (estd. progress 24 days X 8' per day = 192 feet)..... $ 8,770.08

(Cost per foot of progress 2nd 4 weeks ($8,770.08 ÷ 192)— $45.68)

Next 4 weeks

Labor & Food supplies per day cost, 2 shifts per day, 8 feet of progress per day, 6 days per week, 4 weeks

Sub-paragraph "a" above - $196.44 per day, 24 days.....$4,714.56

Sub-paragraph "f" above - Equipment operating and maintenance $143.70 per day, 24 days..... 3,448.80

Sub-paragraph "h" above - Powder, caps, fuse, bits, carbide $12.64 per shift, $25.28 per day, 24 days. 606.72

Total for 3rd 4 weeks (estd. progress 24 days X 8' per day = 192 feet)..... $ 8,770.08

(Cost per foot of progress 3rd 4 weeks ($8,770.08 ÷ 192)— $45.68)

EAST HUMBOLDT MINES CO.
Reno, Nevada
August 1, 1951

PARAGRAPH 24 contd.

RECAP

Total Expenditure 1st 4 weeks, 24 working days.....		$11,309.93
" "	2nd 4 weeks, 24 working days.....	8,770.08
" "	3rd 4 weeks, 24 working days.....	8,770.08
Allowance for unforeseen items of expense and labor....		1,149.91
Total cost for Exploration Project consisting of 550 feet of work.....		$30,000.00

(Cost per foot for all work in project - ($30,000.00 ÷ 550) $54.54)

Yours very truly

EAST HUMBOLDT MINES CO.

by Barney Dennison
Barney Dennison
President

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia Street
Reno, Nevada

August 1, 1951

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 13 1951

Mr. A. C. Johnson, Chief of Mining Division
U. S. Bureau of Mines
P.O. Box 1551
Reno, Nevada

Dear Sir:

We are hereby submitting a revised estimate of costs under Paragraph 23 in our supplement to Form MF-103, after carefully going over the estimates with yourself and Mr. Gentry, also of the Reno Office Bureau of Mines. We all noted that we had erroneously estimated equipment operating time on a full 8-hour shift basis whereas such will not be the case, which the corrected estimates below show. We have also itemized more completely and given a resume of totals.

PARAGRAPH 23

The following cost estimates are based on operating two shifts per day with a total agreed upon drift and raise footage to be accomplished of 550 feet. This is also based upon our ability to complete 4 feet of progress per shift or 8 feet per day. On this basis, it will require 70 working days of two shifts to complete the project.

a. Labor:

2-shift basis — Per Work week of 6 days

		Per Wk.	Per Wk. 2 Shifts
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1 Topman	$14.00 per day 5 days, $21.00 6th day		91.00
1 Shifter	$15.00 per day 5 days, $22.50 6th day		97.50
1 Cook	$10.00 per day 5 days, $15.00 6th day		65.00
1 Cook Helper	$ 8.00 per day 5 days, $12.00 6th day		52.00
			$ 981.50

Average per-day cost for 2 shifts ($981.50 ÷ 6)	$163.58
Additional for industrial insurance, social security, compensation, etc. (estd. 10%)	16.36
	$179.94
Cost food supplies, 12 men @ $3.25.....$39.00 Less $2.25 board paid by 10 men (Cook and cook's helper board included)..... 22.50	
Net additional cost per day, 2 shifts, for food in excess of board collected.. 16.50	16.50
	$196.44

EAST HUMBOLDT MINES CO.
Reno, Nevada
August 1, 1951

PARAGRAPH 23 contd.

b. Supervisors: None

c. Cost of Equipment and Supplies for Cook House, Bath & Change Room, Cots and Mattresses:

Cooking utensils, dishes, cutlery for boarding house - estd.	$200.00
10 Cots and Mattresses, - estd.	100.00
Bath and change house fixtures and installation - estd.	500.00
Total estimated cost	$800.00

d. Cost additional Facilities: None

e. Cost Items of Equipment: None except noted in sub-paragraph "h" below.

f. Operator proposes to rent the following equipment on an operating per hour basis, including fuel, oil, grease, repair parts, batteries, and all supplies required, together with operator mechanic to start and maintain equipment so that it will be available for rental service hours when and as required.

Estimated Rental Hours Required Per Shift of 8 Hours

1	365 cu.ft. Compressor and Air Hoses	6 hrs. @	$6.95 =	$41.70
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2	Mine Cars	6 hrs. @	.15	.90
1	Little Tugger Air Hoist & Cable	6 hrs. @	.50	3.00
1	Blower and Electric Motor	4 hrs. @	.20	.80
1	60KW Generator - Control Panels - Wiring, etc.	4 hrs. @	4.00	16.00
1	Pick-up Truck & Driver	2 hrs. @	3.00	6.00
		per shift.....		$71.85
				X2
		per day.....		$143.70

No rental charge on pipe and track now installed.

g. Rental Value of Equipment Owned: None

h. The following equipment and supplies will be required for the project, most of which will be purchased within the first 30 days of the operation:

1 Hand Cross Cut Saw			$ 6.95
1 Timber Saw 3½'			9.00
250 Mine Rail Ties - red fir - 30¢ each			75.00
4 Miners Picks and Handles - $4.50 each			18.00
6 Shovels, hand - round point - long handle - $3.00 each			18.00
10 Miners Hard Hats - $7.00 each			70.00
1000' 20# Used Mine Rail Plates and Spikes (8,000#)		deld.	475.00
600' 2" Air Pipe - Galv. - $56.40 per C' -	$338.40		
600' ½" Water Pipe - Galv. - $14.75 per C' -	88.50		
Freight and hauling Pipe to mine	75.00		501.90
3 - 2' pc. of 1" Hex Drill Steel, threaded and shanked -	$4.55 each		13.65
3 - 4' pc. of " "	6.10 each		18.30
3 - 6' pc. of " "	7.65 each		22.95
3 - 8' pc. of " "	9.40 each		28.20

Sub-total (carried forward to next sheet $1,256.95

[illegible]
Reno, Nevada
August 1, 1951

[illegible] 24 contd.

First 4 weeks

Initial Supplies per sub-paragraph "h" above.....$1,822.01
Initial Equipment and Supplies for cook house, bath and change house, and bunk house equipment, per sub-paragraph "c" above..... 800.00

Labor & Food supplies per day cost, 2 shifts per day, 8 feet of progress per day, 6 days per week, 4 weeks (less 3¼ days of first week in clean-up work preparing to start drifting)

Sub-paragraph "a" above - $196.44 per day, 24 days 4,714.56

Sub-paragraph "f" above - Equipment operating and maintenance $143.70 per day, 24 days 3,448.80

Sub-paragraph "h" above - Powder, caps, fuse, bits, carbide $12.64 per shift, $25.28 per day, 20-3/4 days..... 524.56

Total for 1st 4 weeks (estd. progress 20-3/4 actual mining days X 8' per day = 166 feet..... $11,309.93

(Cost per foot of progress 1st 4 weeks ($11,309.93 ÷ 166)— $68.13)

Next 4 weeks

Labor & Food supplies per day cost, 2 shifts per day, 8 feet of progress per day, 6 days per week, 4 weeks

Sub-paragraph "a" above - $196.44 per day, 24 days.....$4,714.56

Sub-paragraph "f" above - Equipment operating and maintenance $143.70 per day, 24 days..... 3,448.80

Sub-paragraph "h" above - Powder, caps, fuse, bits, carbide $12.64 per shift, $25.28 per day, 24 days... 606.72

Total for 2nd 4 weeks (estd. progress 24 days X 8' per day = 192 feet)..... $ 8,770.08

(Cost per foot of progress 2nd 4 weeks ($8,770.08 ÷ 192)— $45.68)

Next 4 weeks

Labor & Food supplies per day cost, 2 shifts per day, 8 feet of progress per day, 6 days per week, 4 weeks

Sub-paragraph "a" above - $196.44 per day, 24 days.....$4,714.56

Sub-paragraph "f" above - Equipment operating and maintenance $143.70 per day, 24 days..... 3,448.80

Sub-paragraph "h" above - Powder, caps, fuse, bits, carbide $12.64 per shift, $25.28 per day, 24 days. 606.72

Total for 3rd 4 weeks (estd. progress 24 days X 8' per day = 192 feet)..... $ 8,770.08

(Cost per foot of progress 3rd 4 weeks ($8,770.08 ÷ 192)— $45.68)

EAST HUMBOLDT MINES CO.
Reno, Nevada
August 1, 1951

PARAGRAPH 24 contd.

RECAP

Total Expenditure	1st 4 weeks, 24 working days.....	$11,309.93
" "	2nd 4 weeks, 24 working days.....	8,770.08
" "	3rd 4 weeks, 24 working days.....	8,770.08
Allowance for unforeseen items of expense and labor....		1,149.91

Total cost for Exploration Project consisting of 550 feet of work..... $30,000.00

(Cost per foot for all work in project - ($30,000.00 ÷ 550) $54.54)

Yours very truly

EAST HUMBOLDT MINES CO.

by Barney Dennison
Barney Dennison
President

			Ag		Pb	Zn
26	44	21	2.00	88.00	0.1	0.4
34	13	76	29.90	388.70	18.2	3.0
35	42	16	8.95	375.90	5.8	4.2
36	51	11	26.20	1336.20	12.9	5.0
37	54	19	11.20		4.4	5.4
38	56	.09	7.50		2.8	2.6
43	27	.25	3.70		.2	2.2
	257		3313.50		1540.5	984.6
av	41		11.54		5.37	3.43
41	27	.16	1.30		.2	1.1
42	21	.03	.25		.1	0.3
44	48	.05	1.25		.1	0.6
45	27	.17	2.05		.1	1.9
46	30	.02	1.80		.2	.3
47	30	.03	3.30		.1	.5
48	32	.08	0.25		1	1.6
	215		316.70		27.2	191.3
av	31		1.47		.13	.89

8.95
42
1790
3580
375.90

29.90
13
8970
2990
388.70

26.20
51
2620
13100
1336.20

26
2.6

12

125
300
37500
26
15000
75000
965.0
96
8000

78.3%

0.50
8
1200
1750
120
600
840
90.1

0.42
5000
1136
78
348
908
7948
88.9

46.5
6
75.10

	Level	Width	oz Au	Oz Ag	% Pb	% Zn
26	3	44	.21	2.00	0.1	0.4
34		13	.76	29.90	18.2	3.0
35		42	.16	8.95-	5.8	4.2
36		51	.11	26.20	12.9	5.0
37		54	.19	11.20	4.4	5.4
38		56	.09	7.50	2.8	2.6
41		27	.16	1.30	.2	1.1
42		21	.03	.25-	.1	0.3
43		37	.25-	3.70	.2	2.2
44		48	.05-	1.25-	.1	0.6
45-		27	.17	2.05-	.1	1.9
46		30	.02	1.80	2	0.3
47		30	.03	3.30	1	0.5-
48		32	.08	0.35-	1	1.6
40	No 3 Level	36	.10	6.30	1.2	5.1
49		37	Tr.	.30	0.1	0.5
50		30	.45-	27.20	9.6	1.4
51		36	.29	4.35-	0.2	0.6
52		29	.11	0.40	0.1	0.3
53		29	.02	1.30	0.1	0.4
54		27	.91	16.90	1.9	1.2
55		19	.13	8.15-	0.1	1.7
56		30	.12	4.55-	1.0	2.5-
57		39	.16	7.05-	0.2	1.1
	Av	310 / 31		2266.10 / 7.31	438.7 / 1.42	465.2 / 1.50
59	Stope	36	Tr.	0.25-	0.1	0.3
60		29	.33	9.40	2.3	1.5-
61		18	.24	2.15-	0.1	0.3
62		18	.92	7.60	0.1	0.4
	Av	101 / 25-		457.10 / 4.53	73.9 / .73	66.9 / .66

120 30°

36
630
108 0
216
226.80

37
30
11.10

31
73 | 226.80
219
78
73

Re...	Noted	Date
Answered		

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

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
RECEIVED
JUL 20 1951
SAN FRANCISCO, CALIFORNIA

July 17, 1951

Mr. H. C. Miller
Executive Officer, DMA Field Team
Region III
1012 Flood Building
870 Market Street
San Francisco 2, California

Dear Sir:

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

Docket No. 624X

Commodity Lead and Zinc

Applicant East Humboldt Mines Company, Room 211, N. Virginia Street, Reno, Nevada

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

Very truly yours,

Tom Lyon
Chairman
Coordinating Committee

Lowell B. Moon
For Bureau of Mines

Clay T. Rowe
For Geological Survey

6/5/51

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. 624X

Commodity Lead and zinc

Total Amount $30,000

Govt. Participation 50%

1. Name and Address of Applicant East Humboldt Mines Company, Room 211, N. Virginia Street, Reno, Nevada.

2. Location of Property Henrietta Mine, Kennedy Mining District, Pershing County, Nevada. (38 miles SE of Imlay) Henrietta and Vera Fraction Claims.

3. Mineral or metal lead and zinc Is it listed in Section 9 of MO-5?

If not, application will be rejected.

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

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

a) Good See attached report by field team, Region III

b) Poor

c) None

d) Don't know—needs field examination has been examined

e) Is there an alternative and favorable project? (If so, attach an explanation)

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

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

Does the lease have sufficient time to run to cover a future productive period?

*question numbers are those of MF-103

7. Are subordination agreements necessary? No

a) MF-201? _____

b) MF-202 _____

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

a) Available manpower Mine is isolated, labor to be recruited from Lovelock. May run into difficulty because of accommodations.

b) Equipment and supplies Major items now owned, only small items that can be purchased from any supply house are needed.
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* Good roads to within 3 miles of property. Last 3 miles need improvements for heavy hauling.

d) Water (question 13)* Sufficient

e) Power (question 13)* Diesel to be provided later.

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

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

Is a field check needed on this point? No

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

a) Is the project adequately described? Yes

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

b) Is there an adequate map or sketch of the proposed work? No, but work can be determined from attached maps.

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

If not, what part of it is? _____

Is this part a worthwhile exploration project?_____

d) Are the cost estimates detailed? Yes

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

e) Are the cost estimates reasonable? Yes

f) Should more information be requested from applicant? No

g) Is a field examination necessary to complete Exhibit A? Has been examined

11. Exhibit B (question 23-d)*

a) Is it applicable? Not applicable

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

c) Is a field check needed?_____

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

a) Is it applicable? Not applicable

b) Sufficient data?_____ If so, attach a draft.

c) Are rents and charges reasonable?_____

d) Is a field check needed? No

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

a) Are there sufficient data? Yes

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

c) Is the schedule excessive for the work proposed? No

d) Are the proposed wages and salaries reasonable? Yes

e) Is a field check needed? No

10. (d) The following costs are taken from data submitted with Form MF-103, on page 3 of Supplement.

Labor

90 days or 15 work weeks at ~~$9.00/wk~~ $900.00	$ 13,500.00
adding 10% for taxes, Social Security, insurance, etc	1,350.00
Accounting costs at $50/wk (15 weeks)	750.00 out
Supervision at $500.00 per month (3 months)	1,500.00 out
Total	$ 17,100.00

Repairs

repairs to cookhouse, water system, cooking equipment	1,000.00 out
Rental and maintenance of equipment at $1672 per week	25,000.00 out
Supplies and equipment estimated approximately	2,190.00
Total based on estimates submitted	$ 45,290.00

Exclusive of labor ($17,100.00) the total cost of rentals, repairs and supplies is $28,190.00 which subtracted from the $30,000 loan requested leaves $1,810.00 for an estimated 300 ft. of drifting, 130 feet of raising, and cleaning and rehabilitating. Tunnel levels 2 and 3 and the winze between level 3 and sub-level 3½. Obviously, the proposed work cannot be accomplished for $1,810.00

G. A. Apell - BM

14. Exhibit E (question 23-c)*

a) Is it applicable? Yes

b) Sufficient data? Yes

c) Reasonable? Yes

d) Field check needed? No

15. In your judgment, can the proposed work be done in the proposed time? Yes

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation. (Attached)

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? Please refer to item 10 (d) attached. It is suggested that a conference between the applicant and field team might result in an acceptable revision of this application. Since the company's offices are in Reno, the necessity for another field examination is eliminated. If the revisions cannot be made, the application should be denied.

Reviewed by: A. L. Brokaw - GS

G. A. Apell - BM

Date 7-12-51

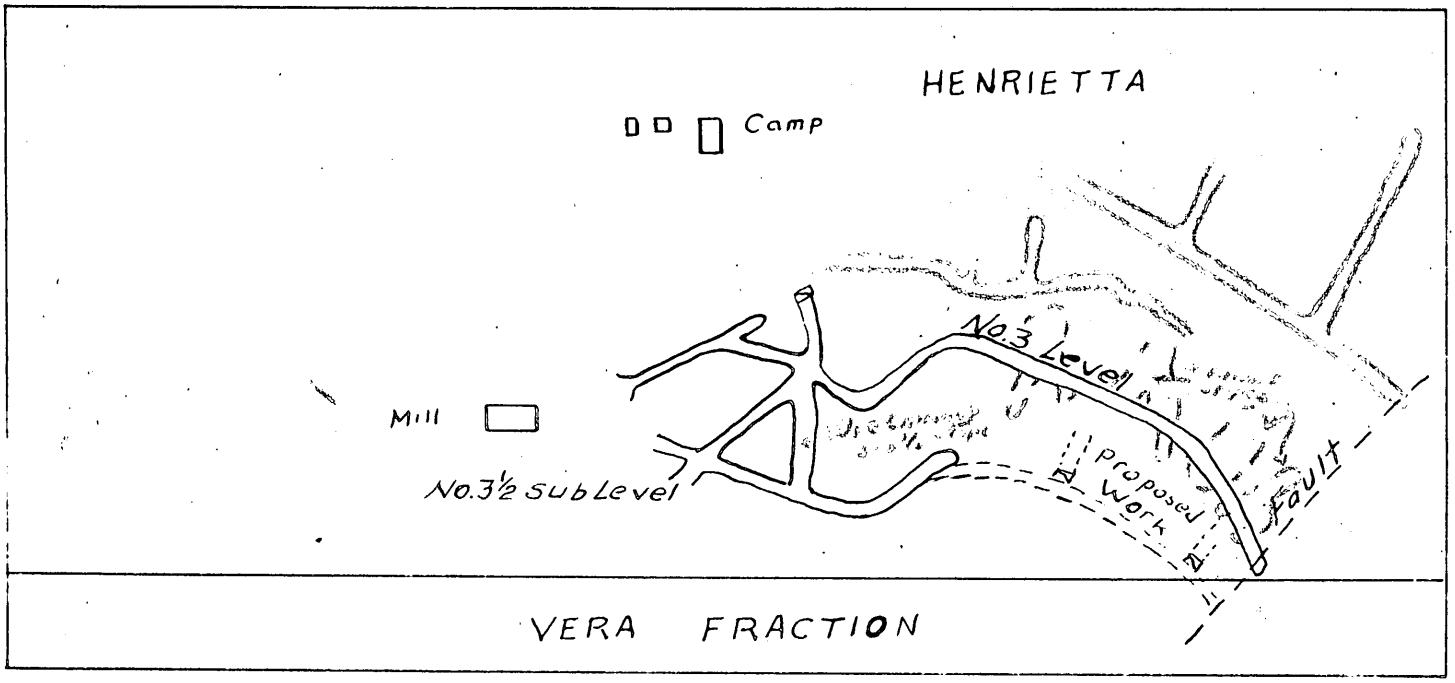
INT.-DUP. SEC., WASH., D.C. 99009

16. Recommendation.

Probably less exploration than is requested will prove the producing potential of this mine. The lower drift on level 3 1/2 need not be driven westward to reach the surface. With this reduction of the original scope of the application, the project is recommended inasmuch as the field team determined that somewhere between 2,500 and 5,100 tons reserve can be inferred from present accessible workings, so the possibility of discovering sufficient ore to repay the loan is moderately good.

A. J. Bodenlos

Area	Number Samples	Ave. Width Inches	Oz. Silver Per Ton	% Lead	% Zinc
No. 3 Tunnel	10	31	7.31	1.42	1.50
No. 3 Tunnel Stope	4	25	4.53	0.73	0.66
No. 3 - 3½ Stope	7	41	11.54	5.37	3.43
No. 3½ Sublevel Tunnel	7	31	1.47	0.13	0.89



EAST HUMBOLDT MINES CO.

SCALE 1 inch = 200 Ft.

Proposed Work: 300 lineal ft. of 5 ft. x 7 ft. drift
2 raises (4' x 6') @ 125 lineal ft. each
Total project: 300 ft. drifting
250 ft. raises
550 ft.

Mittendorf

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

March 6, 1951

Memorandum

To: Executive Officer of Field Team, Region III
Through Operating Committee and
Director Supply Division

From: Leasing Branch, D. M. A. Ref: Doc at [illegible]

Subject: Application of East Humboldt Mines Company
[illegible] Thorwaldson, Secretary and Treasurer
Room 211, 206 N. Virginia Street
Reno, Nevada

Commodity: Zinc, lead

Review of subject docket shows the following:

The applicant requests a loan of $150,000 to purchase mining and milling equipment for the Henrietta Property located at Milleyville, Pershing County, Nevada. The monies to be used as follows:

Purchase of mining equipment	[illegible],000.00
Purchase of milling equipment	[illegible],000.00
Installation costs	20,000.00
Working capital	[illegible],000.00

The applicant states that 1000 tons of concentrates obtained by a simple gravity separation have been shipped during the past three years. No description of the type or grade of these concentrates was given. Evidence supporting the application estimates that the present unremoved faces of ore showing have an average grade of 5% zinc, 5% lead, 15 ounces/ton silver and 0.20 ounces/ton gold. No estimates of reserves are quoted other than the statement that "considerable tonnage of ore has been blocked out" and that the known dimensions of the ore deposit are 1200 feet horizontally and at least 700 feet down the dip. The ore occurs in five major lenticular bodies varying in length from 50 to 200 feet. No width was given for these bodies. The applicant plans to construct a 100-ton selective flotation mill on the property to produce separate lead and zinc concentrates yielding ~~[illegible]~~ 7,200 pounds of lead and 5,600 pounds of zinc, based on a proposed treatment of 100 tons of ore per 24 hour period. A report by the mineral dressing laboratory of the American Cyanamid Company accompanying the application shows, that with proper treatment, the

lead and zinc can be efficiently concentrated from the complex crude ore.

The Lead-Zinc Branch recommends a geological examination of the property to determine if the reserves and grade are sufficient to support a purchase contract for the zinc and an appraisal of the mining and milling methods and costs to establish mining feasibility. ~~and that the attached letter be sent to the applicants.~~

[illegible] Chief
Lead-Zinc Branch
Defense Minerals Administration

Approved:
DMA Operating Committee

Chairman
LOWELL B. MOON,

L. S. Moon

Earl F. Hove

JCampbell:cmp
6-3/6/51
Copies to: Chief, Lead-Zinc Br.
DMA - McKnight
L. S. Moon
R. H. Note
Strobel
Mittendorf
2 copies to Exec. Officer
Regional Field Team,
Region III
Files

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

March 6, 1951

Ref: Docket DMA-624

Nevada Humboldt Mines Company
Mr. J. Thorwaldson
Room 214, 200 North Virginia Street
Reno, Nevada

Dear Mr. Thorwaldson:

Your application for Government assistance under the provisions of the Defense Production Act of 1950, submitted in behalf of the Merrietta Property, has been reviewed by the Lead-Zinc Branch of the Defense Materials Administration.

Before final decision can be made on your request, it will be necessary to obtain additional information on your property. Your application, therefore, has been referred to Mr. Harold C. Miller, Bureau of Mines, Mail U. S. Appraiser's Building San Francisco 11, California, with the request that the needed information be sent to us.

Very truly yours,

Tom Lyon, Director
Supply Division

ABCampbell:amp
3/6/51
Copies to: Chief, Lead-Zinc Br.
USGS - Knight
L. B. Moon
R. H. Mote
Strobel
Hittendorf
2 copies DMA Executive Officer
Regional Field Team Region III
Files

FILE COPY
SURNAME:

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

JUL 17 1951

Brokaw (& TM)
McKnight
O'Leary
Strobel
Moore

July 13, 1951

Re: DMA-624X

Q, R, C

East Humboldt Mines Company
Room 211
N. Virginia Street
Reno, Nevada

Not stripped in R & R.

Gentlemen:

Upon examination of your request for an exploration loan (Docket DMA-624X) by the field team, it has been suggested that the application be revised at a conference between your representatives and our field team representative. In this connection, we are returning your application to Mr. H. C. Miller, Executive Officer, DMA Field Team, 1012 Flood Building, 870 Market Street, San Francisco, California, who will contact your office.

Very truly yours,

Tom Lyon
Tom Lyon, Director
Supply Division

ALBrokaw:emp
G 7/12/51
Copies to: H. C. Miller, Region III (2)
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
R. H. Mote
L. F. Strobel
Directors r. file 4214GSA
Br. r. file 4214 GSA
Files

McKnight
O'Brien
6/5/51 (Footnote)
Herrera

Defense Minerals Administration

Review of Application for Exploration Assistance

Docket No. 624X

Commodity Lead and zinc

Total Amount $30,000

Govt. Participation 50%

1. Name and Address of Applicant East Humboldt Mines Company, Room 211, N. Virginia Street, Reno, Nevada.

2. Location of Property Henrietta Mine, Kennedy Mining District, Pershing County, Nevada. (38 miles SE of Imlay) Henrietta and Vera Fraction Claims.

3. Mineral or metal lead and zinc Is it listed in Section 9 of MO-5?

If not, application will be rejected.

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

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

a) Good See attached report by field team, Region III

b) Poor

c) None

d) Don't know—needs field examination has been examined

e) Is there an alternative and favorable project? (If so, attach an explanation)

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

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

Does the lease have sufficient time to run to cover a future productive period?

*question numbers are those of MF-103

7. Are subordination agreements necessary? No

a) MF-201? _____

b) MF-202 _____

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

a) Available manpower ~~Mine is isolated, labor to be recruited from Lovelock.~~ May run into difficulty because of accommodations.

b) Equipment and supplies ~~Major items now owned, only small items that can be~~ (Question 14 plus general knowledge of availability)* purchased from any supply house are needed.

c) Accessibility (question 12)* ~~Good roads to within 3 miles of property. Last~~ 3 miles need improvements for heavy hauling.

d) Water (question 13)* Sufficient

e) Power (question 13)* Diesel to be provided later.

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

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

Is a field check needed on this point? No

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

a) Is the project adequately described? Yes

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

b) Is there an adequate map or sketch of the proposed work? No, but work can be determined from attached maps.

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

If not, what part of it is? _____

Is this part a worthwhile exploration project?_____

d) Are the cost estimates detailed? Yes

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

e) Are the cost estimates reasonable? Yes

f) Should more information be requested from applicant? No

g) Is a field examination necessary to complete Exhibit A? Has been examined

11. Exhibit B (question 23-d)*

a) Is it applicable? Not applicable

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

c) Is a field check needed?_____

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

a) Is it applicable? Not applicable

b) Sufficient data?_____ If so, attach a draft.

c) Are rents and charges reasonable?_____

d) Is a field check needed? No

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

a) Are there sufficient data? Yes

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

c) Is the schedule excessive for the work proposed? No

d) Are the proposed wages and salaries reasonable? Yes

e) Is a field check needed? No

10. (d) The following costs are taken from data submitted with Form MF-103, on page 3 of Supplement.

Labor

90 days or 15 work weeks at ~~$9.00/wk~~ 900.00.....	$ 13,500.00
adding 10% for taxes, Social Security, insurance, etc.....	1,350.00
Accounting costs at $50/wk (15 weeks).....	750.00
Supervision at $500.00 per month (3 months)..	1,500.00
Total.....	$ 17,100.00

Repairs

repairs to cookhouse, water system, cooking equipment.....	1,000.00
Rental and maintenance of equipment at $1672 per week.....	25,000.00
Supplies and equipment estimated approximately	2,190.00
Total based on estimates submitted	$ 45,290.00

Exclusive of labor ($17,100.00) the total cost of rentals, repairs and supplies is $28,190.00 which subtracted from the $30,000 loan requested leaves $1,810.00 for an estimated 300 ft. of drifting, 130 feet of raising, and cleaning and rehabilitating Tunnel levels 2 and 3 and the winze between level 3 and sub-level 3½. Obviously, the proposed work cannot be accomplished for $1,810.00

G. A. Apell - BM

14. Exhibit E (question 23-c)*

a) Is it applicable? Yes

b) Sufficient data? Yes

c) Reasonable? Yes

d) Field check needed? No

15. In your judgment, can the proposed work be done in the proposed time? Yes

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question? Please refer to item 10 (d) attached. It is suggested that a conference between the applicant and field team might result in an acceptable revision of this application. Since the company's offices are in Reno, the necessity for another field examination is eliminated. If the revisions cannot be made, the application should be denied.

Reviewed by: A. L. Brokaw - GS

G. A. Apell - BM

Date 7-12-51

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

16. Recommendation.

Probably less exploration than is requested will prove the producing potential of this mine. The lower drift on level 3 1/2 need not be driven westward to reach the surface. With this reduction of the original scope of the application, the project is recommended inasmuch as the field team determined that somewhere between 2,500 and 5,100 tons reserve can be inferred from present accessible workings, so the possibility of discovering sufficient ore to repay the loan is moderately good.

A. J. Bodenlos

Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

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

NOT TO BE FILLED IN BY APPLICANT

Docket No. Dma-624X

Date received 6/4/51

EAST HUMBOLDT MINES CO.
ROOM 211
206 No. Virginia Street
Reno, Nevada

Name and address of applicant

Date May 16 1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) XXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX (5) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (6) X 5 other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

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

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

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - [x] Owner.
   - [ ] Lessee.
   - [ ] Contractor.
5. Number of years in production 40 years

   If not in production or operation, estimated date when production will begin 60 Days
6. Experience of operators:
   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
Barney Dennison Reno, Nevada	Pres. & D.	None	$50,000	1,300,000		None	
E.O.Thorwaldson Los Gatos, Calif.	Sec-Tr. & D.	None	$30,000	800,000		None	
T.Arnott Palo Alto, Calif.		None		50,000		None	
Gerry Eden Lovelock, Nevada	Director	None			0	None	
H.Malaney Reno, Nevada		None		50,000		None	
	Total		x x x x x	2,200,000		x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$ 250,000.00	$ 220,000.00	$ 10¢	2,200,000	None Paid
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)	Mine Ore	600 Ton	200 Ton	100 Ton	-
2. Quantity of product processed (specify unit of measure and type of process)	Gravity Mill	600 Ton	200 Ton	100 Ton	-
3. Quantity and grade of product sold or shipped (specify units of measure)	Concentrate	150 Ton	100 Ton	25 Ton	-

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

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

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

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

TOTAL ORE OR MINERAL RESERVES

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

(*c*) If placer:

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

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

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

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

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

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

13. Access Roads:

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

14. Water Supply:

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

15. Power:

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

16. Labor:

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

17. Equipment and Facilities:

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

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

CERTIFICATION

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

East Humboldt Mines Co By Barney Reno

(Name of company) (Signature of authorized official)

May 21, 1951 Pres.

(Date) (Title)

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

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

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Supplement to
Form MF-100

1. MATERIALS PRODUCED:
   a. Lead, zinc, gold, silver
   b. None

2. Mine consists of HENRIETTA and VERA fraction patented mining claims, owned by this company, and eleven (11) surrounding claims, controlled under lease option, known as J and C claims. The HENRIETTA is an underground mine. It has been known as the Forverly mine; also as Rileyville.

   a. 450 linear feet of shafts.
   b. 500 linear feet of drifts and crosscuts.
   c. 3400 linear feet of tunnels or adits.
   d. -

   Mine is not flooded, as mining area is well drained by lower crosscut tunnel. No pumping problems.

   Mine, at present, is able to produce about 25 tons a day.

3. a. Located 37 miles Southeast of Imlay, Nevada, the nearest shipping point.
   b. Located in the Kennedy mining district.
   c. Located in Section 2, Township 28, Range East 37, Patented Mining Claim No. 1113184, Survey 4751.
   d. Pershing County, Nevada.

4. a. Property is not in operation at present.
   b. Owner

5. Has produced ore over a period of 40 years.

   Can begin production within 60 days.

6. EXPERIENCE OF OPERATORS:

   Mr. Barney Dennison, President of our Company, has for the past three years been in charge of the experimental development work on our mining property. He has had management experience since 1924, including Branch Managership experience with major motor truck manufacturers for ten years, and for 15 years managership of his own business involving the purchase, sale and application of mining machinery; also the engineering and installation of such machinery in all types of mining operations in both California and Nevada.

   Mr. E. O. Thorwaldson, Secretary-Treasurer of our Company, has had many years experience in handling the fiscal affairs of several mining companies; also managership of a large gold mining company in California prior to World War II, involving the use of equipment identical to that needed on our property. His business experience includes almost 20 years in the Investment business, during which time he has been associated with top-flight companies including Bankamerica Company and Blythe & Co., Inc., from which business he has been retired for several years to look after his personal business interests.

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Supplement to
Form MF-100

6. EXPERIENCE OF OPERATORS (Contd.):

Mr. Albert Silver of Reno, Nevada, is our consulting geologist. He is widely and favorably known in mining circles, being employed by some of the major mining operators, including the Getchell Mine.

A full-time experienced mill superintendent will also be employed; also an experienced underground foreman who knows how to get the ore out of the mine. We have these men picked out, and they are presently available.

7. HISTORY:

a. General Description of mineral showings. The surface outcropping of the vein extends over an area approximately 1200 feet long. Four tunnels have been driven into the vein horizontally at different elevations. The three upper tunnels range between three to four hundred feet into the vein, the lenses of ore therein being oxide. The fourth, or main working tunnel, encounters sulphide ore approximately two hundred feet from the portal and continues another 750 feet, and contains in this distance five major ore bodies consisting of lenses varying in length from 50 to 200 feet. At various times in past years, some ore has been removed from all of these ore bodies, the work being done mostly by hand, and the ore shipped without treatment of any kind at the mine. This operation necessarily meant that only the high-grade ore was taken out.

The present unremoved faces of ore showing indicate an average metal content of approximately 5% Zinc, 5% Lead, 2% Arsenic, 15 oz/Ton Silver, and .20 oz/Ton Gold over an average mineable width of 4 feet. Considerable tonnage of ore has been blocked out and the vein proven at a depth of 350 feet below main tunnel, as shown by maps which accompanied our Application for Production Loan on file with the Defense Minerals Administration (Form NSRB-146). A crosscut tunnel was driven years ago under present workings and crossed the vein 350 feet below the main working tunnel on the dip of the vein. No ore was ever removed from this crosscut tunnel because of the threat of litigation regarding the vein being apexed on our property. This crosscut tunnel encounters the vein approximately 900 feet from its portal, and the assay reports on two samples taken at this point showed metal content as follows:

	Pb%	Zn%	Au oz/ton	Ag oz/ton
Sample #1	11.5	3.6	Trace	15
#2	13.0	16.1	.44	24

The #2 sample was selected high grade ore, while No. 1 was taken at random.

From the main working tunnel, a winze has been driven on the vein in ore approximately 175 feet down on the 30% angle of dip of the vein. This winze is in the ore all the way down, the ore ranging from three to six feet in width, and carrying the values above noted. A drift in both directions at 125 feet below main tunnel on dip encounters ore in both directions. Some ore has been removed between the tunnel and drift, and none has been taken out below bottom level of the winze.

7. HISTORY

a. Known Dimensions of the Deposit. As described in the paragraph above, it is known that the deposit extends approximately 1200 feet horizontally and at least 700 feet vertically on dip of vein. As previously stated, removal of ore in years past was done by hand, and discontinued when either a depth or height of feasibility was reached. Ore still shows on all faces where such work was discontinued. The surface geology indicates that the ore body may extend over considerable wider area.

History of Deposit. This deposit was originally discovered in the 1870's by British interests, who drove into the oxide ore and quit upon reaching the sulphide deposits. Approximately forty years ago, the main tunnel was driven into the sulphide ore and over a period of some twenty years, mining was carried on by hand labor. During this time, it was worked by Mr. Frank Forverly, the owner, and various lessees. They mined out several thousand tons of highgrade, shipping to smelter without treatment. Because of the necessity of maintaining a high grade of ore suitable for shipment, only the best was taken out, and, as a result, a large tonnage of ore containing good values in Lead and Zinc remain in the mine at the present time. The Forverly claim, which we now own and have patented, contains the apex of all the known ore bodies in the area.

Approximately thirty years ago, the property immediately surrounding the Forverly claim was filed on by other interests, consisting of eleven mining claims. These people drove the lower crosscut tunnel mentioned in Paragraph above, encountering the vein at a point approximately 900 feet from the portal. In the face of possible apex litigation, they removed no ore. We have an option to purchase all of these claims, good for another two years, for the nominal sum of $15,000, payable out of royalty of 10% of net smelter return from ore removed from any of the claims.

We acquired ownership of the Forverly claim about 3½ years ago, and in the course of our experimental development work have driven the main working tunnel in another 200 feet, exposing ore averaging five feet in width and containing higher values in both Lead and Zinc than any which we had previously sampled in the mine. We have removed some of the ore above the main tunnel, which we treated in a gravity plant and shipped the resulting concentrate to a smelter. Some of our smelter return sheets are attached hereto. We have also stoped out some ore between drift off winze and the winze itself, which was likewise treated and shipped to smelter. During the past 3½ years, we have mined approximately one thousand tons and shipped the resulting gravity concentrates, helping us to defray our development expense.

b. Adjoining and neighboring properties of Kennedy, four miles Southeast, produced considerable quantities in early days, and of record.

c. Full and complete private reports, applying to this application, are filed with our application for production loan now on file with the Defense Minerals Administration on Form NSRB-146.

11. As shown in our application, above referred to, we contemplate increasing production

11. contd.

to 100 tons a day and the addition of a flotation plant.

12. ORE or MINERAL RESERVES:

a. Answered fully in our application, above referred to.

b. This information available by Bureau of Mines report, made after examination, resulting from above referred to application for loan.

13. Located 37 miles over good gravel road from Imlay, Nevada. Approximately 60 miles from Lovelock and Winnemucca, Nevada. Roads from Imlay to above points paved - main highway.

14. Spring above mine produces ample excellent water for camp and underground mining operations and is piped in under pressure, and is sufficient for year-round service. Mill water is developed in lower tunnel, with sufficient quantities for up to 50-ton per day mill. Additional water available within one mile out of spring with sufficient overflow to meet all requirements for 100-ton mill year round.

15. Power: Diesel generation on property.

16. Labor: In the past three years, during development and experimental milling program, we employed two miners, two muckers, one trammer, two mill men, one camp cook and one superintendent.

17. The buildings on the property include one cook house, with separate bedroom, bunk houses for eight men, compressor and tool house, one oil storage building, blacksmith shop building - all in useable condition. The mine is equipped with rail, air and water pipe in all of the sulphide working zones. There is no other equipment on the property belonging to us. We have an option to rent or purchase present mill building, gravity mill, compressor, drills, tools, etc., that are on the property not belonging to us.

18. Further explanation on file, under above mentioned loan application.

Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

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

NOT TO BE FILLED IN BY APPLICANT

Docket No. Dma-624 X

Date received 6/4/51

EAST HUMBOLDT MINES CO.
ROOM 211
206 No. Virginia Street
Reno, Nevada

Name and address of applicant

Date May 16 1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) ~~Necessity certificate pursuant to Section 124A (Amortization Deduction) of Internal Revenue Code, 1950, (5)~~ priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and (~~6~~ 5) other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

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

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).
   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - [x] Owner.
   - [ ] Lessee.
   - [ ] Contractor.
5. Number of years in production 40 years
   If not in production or operation, estimated date when production will begin 60 Days
6. Experience of operators:
   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
Barney Dennison Reno, Nevada	Pres. & D.	None	$50,000	1,300,000		None	
E.O.Thorwaldson Los Gatos, Calif	Sec-Tr. & D.	None	$30,000	800,000		None	
T.Arnott Palo Alto, Calif.		None		50,000		None	
Gerry Eden Lovelock, Nevada	Director	None			0	None	
H.Malaney Reno, Nevada		None		50,000		None	
	Total		x x x x x	2,200,000		x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$ 250,000.00	$ 220,000.00	$ 10¢	2,200,000	None Paid
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)	Mine Ore	600 Ton	200 Ton	100 Ton	-
2. Quantity of product processed (specify unit of measure and type of process)	Gravity Mill	600 Ton	200 Ton	100 Ton	-
3. Quantity and grade of product sold or shipped (specify units of measure)	Concentrate	150 Ton	100 Ton	25 Ton	-

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

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

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

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

TOTAL ORE OR MINERAL RESERVES

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

(*c*) If placer:

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

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

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

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

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

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

13. Access Roads:

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

14. Water Supply:

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

15. Power:

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

16. Labor:

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

17. Equipment and Facilities:

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

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

CERTIFICATION

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

East Humboldt Mines Co. (Name of company)

By Barney Brunner (Signature of authorized official)

May 21, 1951 (Date)

President (Title)

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

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

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Supplement to
Form MF-100

1. MATERIALS PRODUCED:
   a. Lead, zinc, gold, silver
   b. None

2. Mine consists of HENRIETTA and VERA fraction patented mining claims, owned by this company, and eleven (11) surrounding claims, controlled under lease option, known as J and C claims. The HENRIETTA is an underground mine. It has been known as the Forvorly mine; also as Rileyville.

   a. 450 linear feet of shafts.
   b. 500 linear feet of drifts and crosscuts.
   c. 3400 linear feet of tunnels or adits.
   d. -

   Mine is not flooded, as mining area is well drained by lower crosscut tunnel. No pumping problems.

   Mine, at present, is able to produce about 25 tons a day.

3. a. Located 37 miles Southeast of Imlay, Nevada, the nearest shipping point.
   b. Located in the Kennedy mining district.
   c. Located in Section 2, Township 28, Range East 37, Patented Mining Claim No. 1113184, Survey 4751.
   d. Pershing County, Nevada.

4. a. Property is not in operation at present.
   b. Owner

5. Has produced ore over a period of 40 years.

   Can begin production within 60 days.

6. EXPERIENCE OF OPERATORS:

   Mr. Barney Dennison, President of our Company, has for the past three years been in charge of the experimental development work on our mining property. He has had management experience since 1924, including Branch Managership experience with major motor truck manufacturers for ten years, and for 15 years managership of his own business involving the purchase, sale and application of mining machinery; also the engineering and installation of such machinery in all types of mining operations in both California and Nevada.

   Mr. E. O. Thorwaldson, Secretary-Treasurer of our Company, has had many years experience in handling the fiscal affairs of several mining companies; also managership of a large gold mining company in California prior to World War II, involving the use of equipment identical to that needed on our property. His business experience includes almost 20 years in the Investment business, during which time he has been associated with top-flight companies including Bankamerica Company and Blythe & Co., Inc., from which business he has been retired for several years to look after his personal business interests.

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Supplement to
Form MF-100

6. EXPERIENCE OF OPERATORS (Contd.):

Mr. Albert Silver of Reno, Nevada, is our consulting geologist. He is widely and favorably known in mining circles, being employed by some of the major mining operators, including the Getchell Mine.

A full-time experienced mill superintendent will also be employed; also an experienced underground foreman who knows how to get the ore out of the mine. We have these men picked out, and they are presently available.

7. HISTORY:

A. General Description of mineral showings. The surface outcropping of the vein extends over an area approximately 1200 feet long. Four tunnels have been driven into the vein horizontally at different elevations. The three upper tunnels range between three to four hundred feet into the vein, the lenses of ore therein being oxide. The fourth, or main working tunnel, encounters sulphide ore approximately two hundred feet from the portal and continues another 750 feet, and contains in this distance five major ore bodies consisting of lenses varying in length from 50 to 200 feet. At various times in past years, some ore has been removed from all of these ore bodies, the work being done mostly by hand, and the ore shipped without treatment of any kind at the mine. This operation necessarily meant that only the high-grade ore was taken out.

The present unremoved faces of ore showing indicate an average metal content of approximately 5% Zinc, 5% Lead, 2% Arsenic, 15 oz/Ton Silver, and .20 oz/Ton Gold over an average mineable width of 4 feet. Considerable tonnage of ore has been blocked out and the vein proven at a depth of 350 feet below main tunnel, as shown by maps which accompanied our Application for Production Loan on file with the Defense Minerals Administration (Form NSRB-146). A crosscut tunnel was driven years ago under present workings and crossed the vein 350 feet below the main working tunnel on the dip of the vein. No ore was ever removed from this crosscut tunnel because of the threat of litigation regarding the vein being apexed on our property. This crosscut tunnel encounters the vein approximately 900 feet from its portal, and the assay reports on two samples taken at this point showed metal content as follows:

	Pb%	Zn%	Au oz/ton	Ag oz/ton
Sample #1	11.5	3.6	Trace	15
#2	13.0	16.1	.44	24

The #2 sample was selected high grade ore, while No. 1 was taken at random.

From the main working tunnel, a winze has been driven on the vein in ore approximately 175 feet down on the 30% angle of dip of the vein. This winze is in the ore all the way down, the ore ranging from three to six feet in width, and carrying the values above noted. A drift in both directions at 125 feet below main tunnel on dip encounters ore in both directions. Some ore has been removed between the tunnel and drift, and none has been taken out below bottom level of the winze.

7. HISTORY

a. Known Dimensions of the Deposit. As described in the paragraph above, it is known that the deposit extends approximately 1200 feet horizontally and at least 700 feet vertically on dip of vein. As previously stated, removal of ore in years past was done by hand, and discontinued when either a depth or height of feasibility was reached. Ore still shows on all faces where such work was discontinued. The surface geology indicates that the ore body may extend over considerable wider area.

History of Deposit. This deposit was originally discovered in the 1870's by British interests, who drove into the oxide ore and quit upon reaching the sulphide deposits. Approximately forty years ago, the main tunnel was driven into the sulphide ore and over a period of some twenty years, mining was carried on by hand labor. During this time, it was worked by Mr. Frank Forverly, the owner, and various leasees. They mined out several thousand tons of highgrade, shipping to smelter without treatment. Because of the necessity of maintaining a high grade of ore suitable for shipment, only the best was taken out, and, as a result, a large tonnage of ore containing good values in Lead and Zinc remain in the mine at the present time. The Forvorly claim, which we now own and have patented, contains the apex of all the known ore bodies in the area.

Approximately thirty years ago, the property immediately surrounding the Forvorly claim was filed on by other interests, consisting of eleven mining claims. These people drove the lower crosscut tunnel mentioned in Paragraph above, encountering the vein at a point approximately 900 feet from the portal. In the face of possible apex litigation, they removed no ore. We have an option to purchase all of these claims, good for another two years, for the nominal sum of $15,000, payable out of royalty of 10% of net smelter return from ore removed from any of the claims.

We acquired ownership of the Forvorly claim about 3½ years ago, and in the course of our experimental development work have driven the main working tunnel in another 200 feet, exposing ore averaging five feet in width and containing higher values in both Lead and Zinc than any which we had previously sampled in the mine. We have removed some of the ore above the main tunnel, which we treated in a gravity plant and shipped the resulting concentrate to a smelter. Some of our smelter return sheets are attached hereto. We have also stoped out some ore between drift off winze and the winze itself, which was likewise treated and shipped to smelter. During the past 3½ years, we have mined approximately one thousand tons and shipped the resulting gravity concentrates, helping us to defray our development expense.

b. Adjoining and neighboring properties of Kennedy, four miles Southeast, produced considerable quantities in early days, and of record.

c. Full and complete private reports, applying to this application, are filed with our application for production loan now on file with the Defense Minerals Administration on Form NSRB-146.

11. As shown in our application, above referred to, we contemplate increasing production

11. contd.

to 100 tons a day and the addition of a flotation plant.

12. ORE or MINERAL RESERVES:
a. Answered fully in our application, above referred to.

b. This information available by Bureau of Mines report, made after examination, resulting from above referred to application for loan.

13. Located 37 miles over good gravel road from Imlay, Nevada. Approximately 60 miles from Lovelock and Winnemucca, Nevada. Roads from Imlay to above points paved - main highway.

14. Spring above mine produces ample excellent water for camp and underground mining operations and is piped in under pressure, and is sufficient for year-round service. Mill water is developed in lower tunnel, with sufficient quantities for up to 50-ton per day mill. Additional water available within one mile out of spring with sufficient overflow to meet all requirements for 100-ton mill year round.

15. Power: Diesel generation on property.

16. Labor: In the past three years, during development and experimental milling program, we employed two miners, two muckers, one trammer, two mill men, one camp cook and one superintendent.

17. The buildings on the property include one cook house, with separate bedroom, bunk houses for eight men, compressor and tool house, one oil storage building, blacksmith shop building - all in useable condition. The mine is equipped with rail, air and water pipe in all of the sulphide working zones. There is no other equipment on the property belonging to us. We have an option to rent or purchase present mill building, gravity mill, compressor, drills, tools, etc., that are on the property not ~~belonging to us~~ belonging to us.

18. Further explanation on file, under above mentioned loan application.

Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

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

NOT TO BE FILLED IN BY APPLICANT

Docket No. Dma-624 X
Date received 6/4/51

EAST HUMBOLDT MINES CO.
ROOM 211
206 No. Virginia Street
Reno, Nevada

Name and address of applicant

Date May 16 1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) ~~certificate of necessity pursuant to the provisions of Sec. 124-A (Amortization Deduction) of Internal Revenue Code, 1950, (5)~~ priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and ~~(6)~~ 5 other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

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

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

   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   - (*a*) Distance and direction from nearest town and shipping point.
   - (*b*) Mining district.
   - (*c*) Township, Section, Range.
   - (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - [x] Owner.
   - [ ] Lessee.
   - [ ] Contractor.
5. Number of years in production 40 years

   If not in production or operation, estimated date when production will begin 60 Days
6. Experience of operators:

   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   - (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   - (*b*) State briefly the known history and production of adjoining and neighboring properties.
   - (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

16—63792-1

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
Barney Dennison Reno, Nevada	Pres. & D.	None	$50,000	1,300,000		None	
E.O.Thorwaldson Los Gatos, Calif.	Sec.Tr. & D.	None	$30,000	800,000		None	
T.Arnott Palo Alto, Calif.		None		50,000		None	
Gerry Eden Lovelock, Nevada	Director	None			0	None	
H.Malaney Reno, Nevada		None		50,000		None	
	Total		x x x x x	2,200,000		x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$250,000.00	$ 220,000.00	$ 10¢	2,200,000	None Paid
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)	Mine Ore	600 Ton	200 Ton	100 Ton	-
2. Quantity of product processed (specify unit of measure and type of process)	Gravity Mill	600 Ton	200 Ton	100 Ton	-
3. Quantity and grade of product sold or shipped (specify units of measure)	Concentrate	150 Ton	100 Ton	25 Ton	-

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

(b) If deposit is other than placer:

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

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

TOTAL ORE OR MINERAL RESERVES

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

(c) If placer:

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

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

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

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

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

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

13. Access Roads:

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

14. Water Supply:

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

15. Power:

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

16. Labor:

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

17. Equipment and Facilities:

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

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

CERTIFICATION

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

East Humboldt Mines Co.
(Name of company)

By Garney Ruminer
(Signature of authorized official)

May 21, 1951.
(Date)

President
(Title)

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

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

[illegible] MINING CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Supplement to
Form MF-100

1. MATERIALS PRODUCED:
   a. Lead, zinc, gold, silver
   b. None

2. Mine consists of [illegible] and [illegible] fraction patented mining claims, owned by this company, and eleven (11) surrounding claims, controlled under lease option, known as J and C claims. The [illegible] is an underground mine. It has been known as the Forverly mine; also as Silverville.

   a. 450 linear feet of shafts.
   b. 500 linear feet of drifts and crosscuts.
   c. 3400 linear feet of tunnels or adits.
   d. -

   Mine is not flooded, as mining area is well drained by lower crosscut tunnel. No pumping problems.

   Mine, at present, is able to produce about 25 tons a day.

3. a. Located 37 miles Southeast of Imlay, Nevada, the nearest shipping point.
   b. Located in the Kennedy mining district.
   c. Located in Section 2, Township 26, Range East 37, Patented Mining Claim No. 1113184, Survey 4751.
   d. Pershing County, Nevada.

4. a. Property is not in operation at present.
   b. Owner

5. Has produced ore over a period of 40 years.

   Can begin production within 60 days.

6. EXPERIENCE OF OPERATORS:

   Mr. Barney Dennison, President of our Company, has for the past three years been in charge of the experimental development work on our mining property. He has had management experience since 1924, including Branch Managership experience with major motor truck manufacturers for ten years, and for 15 years managership of his own business involving the purchase, sale and application of mining machinery; also the engineering and installation of such machinery in all types of mining operations in both California and Nevada.

   Mr. E. O. Thorwaldson, Secretary-Treasurer of our Company, has had many years experience in handling the fiscal affairs of several mining companies; also managership of a large gold mining company in California prior to World War II, involving the use of equipment identical to that needed on our property. His business experience includes almost 20 years in the Investment business, during which time he has been associated with top-flight companies including Bankamerica Company and Blythe & Co., Inc., from which business he has been retired for several years to look after his personal business interests.

EAST EUREKA MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Supplement to
Form MF-100

6. EXPERIENCE OF OPERATORS (Contd.):

Mr. Albert Silver of Reno, Nevada, is our consulting geologist. He is widely and favorably known in mining circles, being employed by some of the major mining operators, including the Getchell Mine.

A full-time experienced mill superintendent will also be employed; also an experienced underground foreman who knows how to get the ore out of the mine. We have these picked out, and they are presently available.

7. HISTORY:

a. General Description of mineral showings. The surface outcropping of the vein extends over an area approximately 1200 feet long. Four tunnels have been driven into the vein horizontally at different elevations. The three upper tunnels range between three to four hundred feet into the vein, the lenses of ore therein being oxide. The fourth, or main working tunnel, encounters sulphide ore approximately two hundred feet from the portal and continues another 750 feet, and contains in this distance five major ore bodies consisting of lenses varying in length from 50 to 200 feet. At various times in past years, some ore has been removed from all of these ore bodies, the work being done mostly by hand, and the ore shipped without treatment of any kind at the mine. This operation necessarily meant that only the high-grade ore was taken out.

The present unremoved faces of ore showing indicate an average metal content of approximately 5% Zinc, 5% Lead, 2% Arsenic, 15 oz/Ton Silver, and 20 oz/Ton Gold over an average mineable width of 4 feet. Considerable tonnage of ore has been blocked out and the vein proven at a depth of 350 feet below main tunnel, as shown by maps which accompanied our Application for Production Loan on file with the Defense Minerals Administration (Form MSRB-146). A crosscut tunnel was driven years ago under present workings and crossed the vein 350 feet below the main working tunnel on the dip of the vein. No ore was ever removed from this crosscut tunnel because of the threat of litigation regarding the vein being apexed on our property. This crosscut tunnel encounters the vein approximately 900 feet from its portal, and the assay reports on two samples taken at this point showed metal content as follows:

	Pb%	Zn%	Au oz/ton	Ag oz/ton
Sample #1	11.5	3.6	Trace	15
#2	13.0	16.1	.44	24

The #2 sample was selected high grade ore, while No. 1 was taken at random.

From the main working tunnel, a winze has been driven on the vein in ore approximately 175 feet down on the 30% angle of dip of the vein. This winze is in the ore all the way down, the ore ranging from three to six feet in width, and carrying the values above noted. A drift in both directions at 125 feet below main tunnel on dip encounters ore in both directions. Some ore has been removed between the tunnel and drift, and none has been taken out below bottom level of the winze.

7. HISTORY

a. Known Dimensions of the Deposit. As described in the paragraph above, it is known that the deposit extends approximately 1200 feet horizontally and at least 700 feet vertically on dip of vein. As previously stated, removal of ore in years past was done by hand, and discontinued when either a depth or height of feasibility was reached. Ore still shows on all faces where such work was discontinued. The surface geology indicates that the ore body may extend over considerable wider area.

History of Deposit. This deposit was originally discovered in the 1870's by British interests, who drove into the oxide ore and quit upon reaching the sulphide deposits. Approximately forty years ago, the main tunnel was driven into the sulphide ore and over a period of some twenty years, mining was carried on by hand labor. During this time, it was worked by Mr. Frank Forverly, the owner, and various lessees. They mined out several thousand tons of highgrade, shipping to smelter without treatment. Because of the necessity of maintaining a high grade of ore suitable for shipment, only the best was taken out, and, as a result, a large tonnage of ore containing good values in lead and Zinc remain in the mine at the present time. The Forverly claim, which we now own and have patented, contains the apex of all the known ore bodies in the area.

Approximately thirty years ago, the property immediately surrounding the Forverly claim was filed on by other interests, consisting of eleven mining claims. These people drove the lower crosscut tunnel mentioned in Paragraph above, encountering the vein at a point approximately 900 feet from the portal. In the face of possible apex litigation, they removed no ore. We have an option to purchase all of these claims, good for another two years, for the nominal sum of $15,000, payable out of royalty of 10% of net smelter return from ore removed from any of the claims.

We acquired ownership of the Forverly claim about 3½ years ago, and in the course of our experimental development work have driven the main working tunnel in another 200 feet, exposing ore averaging five feet in width and containing higher values in both Lead and Zinc than any which we had previously sampled in the mine. We have removed some of the ore above the main tunnel, which we treated in a gravity plant and shipped the resulting concentrate to a smelter. Some of our smelter return sheets are attached hereto. We have also stoped out some ore between drift off winze and the winze itself, which was likewise treated and shipped to smelter. During the past 3½ years, we have mined approximately one thousand tons and shipped the resulting gravity concentrates, helping us to defray our development expense.

b. Adjoining and neighboring properties of Kennedy, four miles Southeast, produced considerable quantities in early days, and of record.

c. Full and complete private reports, applying to this application, are filed with our application for production loan now on file with the Defense Minerals Administration on Form NSRB-146.

11. As shown in our application, above referred to, we contemplate increasing production

11. contd.

to 100 tons a day and the addition of a flotation plant.

12. ORE or MINERAL RESERVES:
a. Answered fully in our application, above referred to.

b. This information available by Bureau of Mines report, made after examination, resulting from above referred to application for loan.

13. Located 37 miles over good gravel road from Imlay, Nevada. Approximately 60 miles from Lovelock and Winnemucca, Nevada. Roads from Imlay to above points paved - main highway.

14. Spring above mine produces ample excellent water for camp and underground mining operations and is piped in under pressure, and is sufficient for year-round service. Mill water is developed in lower tunnel, with sufficient quantities for up to 50-ton per day mill. Additional water available within one mile out of spring with sufficient overflow to meet all requirements for 100-ton mill year round.

15. Power: Diesel generation on property.

16. Labor: In the past three years, during development and experimental milling program, we employed two miners, two muckers, one tramer, two mill men, one camp cook and one superintendent.

17. The buildings on the property include one cook house, with separate bedroom, bunk houses for eight men, compressor and tool house, one oil storage building, blacksmith shop building - all in useable condition. The mine is equipped with rail, air and water pipe in all of the sulphide working zones. There is no other equipment on the property belonging to us. We have an option to rent or purchase present mill building, gravity mill, compressor, drills, tools, etc., that are on the property not belonging to us.

18. Further explanation on file, under above mentioned loan application.

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA-624 X

Date received 5/4/51

Participation

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Name and address of applicant

Date May 16, 1951

FILL IN THIS BLOCK

Date of application May 16, 1951

Estimated cost 630,000.00

Mineral or metal Lead and Zinc

Percentage of Government participation 50%

Location of mine Kennedy Mining District in Pershing County, Nevada

Date of filing MF-100 May 16, 1951

DMA Docket Number, if available DMA-624 X

INSTRUCTIONS

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

THE APPLICANT

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

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

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

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

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

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

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

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

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

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

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

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

*16. History:

(*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(*b*) State briefly the known history and production of adjoining and neighboring properties.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:

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

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

*18. Ore or mineral reserves: (If property is or has been operating.)

(*a*) Describe the ore or mineral deposits briefly.

(*b*) Submit available maps and assay data.

(*c*) Give estimated tonnage and grade of each class of ore reserves.

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

THE EXPLORATION

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

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

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

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

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.

(*b*) Supervisors, by numbers and positions, with salaries of each.

(*c*) Cost of necessary repairs to existing facilities, structures, and buildings.

(*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.

(*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

(*f*) Cost of rental for equipment which the operator proposes to rent.

(*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.

(*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.

(*i*) Cost of power, water, utilities, and any other items not provided for above.

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

CERTIFICATION

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

Earl Newbold Mines Co By [signature]
(Name of company) (Signature of authorized official)

May 21, 1957 President
(Date) (Title)

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

*Same as footnote on page 1.

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

EAST HUMBOLDT MINES C
Room 211
206 N. Virginia St.
Reno, Nevada

6. No claims or encumbrances against the Henrietta property.

7. The application for exploration loan on this Form MF-103 does not contemplate any work or development on any claim except the Henrietta and Vera fraction claims, which are patented and owned by the applicant outright. The adjoining claims, on which we hold a lease and option, are not in any way involved in this exploration project. Therefore, subordination of interest in said lease claims is not required.

8. A financial statement has been submitted on Page 9, Form NSRB-146, of the application for Government loan.

The applicant has arranged for advances by its officers to cover its share of the proposed project, and the undersigned is prepared to guarantee ~~the~~ ~~share~~ to furnish to the applicant, as required, its share of the required investment.

9. As per Paragraph 8 above, the applicant is so prepared to invest $15,000.00 in the proposed project, which is sufficient to pay its part of the cost of the project, as detailed in Question 23 of this application form.

Continued on Page 2

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Supplement to Form MF-103

~~11. No liens or encumbrances against the Henrietta property.~~

10. a. Mine consists of Henrietta and Vera fraction patented mining claims, located 37 miles Southeast of Imlay, Nevada, the nearest shipping point, in the Kennedy mining district, in Section 2, Township 28, Range East 37, Patented Mining Claim No. 1113184, Survey 4751, Pershing County, Nevada.

    b. The area, in which the exploration is to be conducted, consists of that portion of the mine lying East of the East-end of the present drift off the winze for an estimated distance of approximately 500 feet, all located on the above patented claim and a fraction. Maps of this area are available from the Bureau of Mines investigation.

15. High grade ore, that is consisting of 20% or higher lead content, can be shipped to Selby Smelter, as it has been in the past. Lower percentage lead and zinc content ores will have to be concentrated by a flotation process; the mill for which will have to be installed on the property. This exploration work, no doubt, will develop sufficient additional ore, combined with the present ore reserves, to warrant installation of a flotation plant on the property.

20. The exploration will be conducted for lead and zinc ores. The exploration will be to develop additional blocked ore underneath the present known ore bodies, the extensions of which will be encountered in the development drift on the vein structure; the ore being heavy sulphide lead zinc.

21. The proposed work is to continue drifting on the vein 125 feet on the dip below the present No. 3 tunnel which contains considerable unmined ore and from which has been taken a large quantity of ore. This may require, for economical operation, the opening of this drift off the winze to the surface at the West. Also to run development raises through the ore bodies from the proposed extended drift to the No. 3 tunnel above it. Also the further extension of the present winze towards the lower crosscut tunnel. The estimated time to complete the project should be within 150 days on a single shift basis. If two shifts can be properly handled, then it should not require over 90 days to complete.

22. Please refer to our application filed under Form No. NSRB-146 in the hands of the D.M.A. and Bureau of Mines. This contains complete data, as required in Question 22, as well as the Bureau of Mines examination report.

EAST HUMBOLDT MINES C
Room 211
206 N. Virginia St.
Reno, Nevada

23. The following figures are based on operating two shifts per day, in which case the project should be completed in 80 to 90 days.

a. Labor: Two miners $13.00 per day each, Two Muckers $12.00 per day each, 1 Trammer and Hoist Man $12.00 per day, 1 Truck Driver and Helper $13.00 per day.

Total wage labor costs, aside from that furnished by rental contractor, would be $900.00 per week on the two-shift basis. To this, should be added 10% to cover taxes, Social Security, industrial insurance. Also accounting expense, probably aggregating $50.00 per week.

b. Supervisors: One Foreman Supervisor at $500.00 per month.

c. Cost of repairs: Includes the following: Repairs to cook house, water system, cooking equipment, etc. $1,000.00.

d. Cost additional facilities: None

e. Cost items of equipment: None

f. Operator proposes to rent the following equipment on an operating per hour basis, including equipment, fuel, maintenance, repairs etc.

365' Compressor complete with receiver, pipe, air hoses required..$6.95 per hr.

Diesel Generating Plant, 75 KW capacity, complete with fuel, electric wiring to required locations.....$5.00 per hr.

Electric driven blower to drifter drills, one Tugger Hoist, 1 Double Drum slusher hoist, 1 Stoper -- all for $3.30 per hr.

One 1-ton Pick-up Truck ....$3.00 per hr.

The estimated hours required per week on a double shift basis for the above equipment will require a total of $1,672.00, based on a 6-day week two shifts each day of 8 hours each on all of the equipment with the exception of the Pick-up Truck which is based on the total use of 4 hours per shift.

g. Rental value of equipment owned. None.

h. The following equipment and supplies will be required forthe project, most of which will be purchased within the first 30 days of the operation:

3 Miner's picks, 6 Shovels, Hand Tools and Wrenches, 6 Hard Hats, 400' Flexible Vent Tube, 1000' mine rail with track plates and spikes, 250 mine rail ties, 600' 1½" air pipe, 600' 2½" water pipe, 600' electric light cable, 200 drill bits, 20 pieces drill steel, 20 boxes powder, electric lights and batteries, 10 Miner's lamps, 300# carbide, 200 wedges, 350' 1/2" Cable. Total estimated cost of the above items approximately $2190.00.

EAST HUMBOLDT MINES C
Room 211
206 N. Virginia St.
Reno, Nevada

23. i. Power included in Paragraph f above.
Water supply system now installed intact.
Other utilities included.

j.

24. The schedule for project, based on two-shift per day operation basis, is approximately as follows:

It will take approximately $2,500.00 per week total expense the first 2 or 3 weeks and require the addition of approximately $2,500.00 for material and supply purchases over and above the basic weekly cost.

On the basis of this application on a two-shift per-day basis, the progress should be as follows: After the first two weeks, which would cover a period cleaning up the existing work piles and getting the equipment ready for operation, obtaining manpower, supplies, materials, etc., progress of a minimum of 4½' of drift per shift or an equal amount of development raise per shift, should be accomplished. Therefore, we expect the average cost on the project per two-shift basis, to be $10,000.00 per month, and completed within 90 days.

If a single shift basis became necessary for any reason whatsoever, the project would take approximately 5 months at an average cost of $6,000.00 per month.

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA-624 X

Date received 6/4/51

Participation

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Name and address of applicant

Date May 16, 1951

FILL IN THIS BLOCK

Date of application May 16, 1951

Estimated cost $30,000.00

Mineral or metal Lead and Zinc

Percentage of Government participation 50%

Location of mine Kennedy Mining District in Pershing County, Nevada

Date of filing MF-100 May 16, 1951

DMA Docket Number, if available DMA-624X

INSTRUCTIONS

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

THE APPLICANT

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

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

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

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

JUN 6 1951

16—64067-1

THE PROPERTY

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

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

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

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

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

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

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

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

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

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

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

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

THE EXPLORATION

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

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

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

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

THE REQUIREMENTS AND COSTS

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

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

CERTIFICATION

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

Cash Humboldt Mines — By [signature]
(Name of company) — (Signature of authorized official)

May 21, 1951 — Pres
(Date) — (Title)

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

*Same as footnote on page 1.

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

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

6. No claims or encumbrances against the Henrietta property.

7. The application for exploration loan on this Form MF-103 does not contemplate any work or development on any claim except the Henrietta and Vera fraction claims, which are patented and owned by the applicant outright. The adjoining claims, on which we hold a lease and option, are not in any way involved in this exploration project. Therefore, subordination of interest in said lease claims is not required.

8. A financial statement has been submitted on Page 9, Form NSRB-146, of the application for Government loan.

The applicant has arranged for advances by its officers to cover its share of the proposed project, and the undersigned is prepared to guarantee ~~xxx~~ ~~xxxxx~~ to furnish to the applicant, as required, its share of the required investment.

9. As per Paragraph 8 above, the applicant is so prepared to invest $15,000.00 in the proposed project, which is sufficient to pay its part of the cost of the project, as detailed in Question 23 of this application form.

Continued on Page 2

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Supplement to Form MF-103

To be Approved

23. The following figures are based on operating two shifts per day, in which case the project should be completed in 80 to 90 days.

a. Labor: Two miners $13.00 per day each, Two Muckers $12.00 per day each, 1 Trammer and Hoist Man $12.00 per day, 1 Truck Driver and Helper $13.00 per day.

Total wage labor costs, aside from that furnished by rental contractor, would be $900.00 per week on the two-shift basis. To this, should be added 10% to cover taxes, Social Security, industrial insurance. Also accounting expense, probably aggregating $50.00 per week.

b. Supervisors: One Foreman Supervisor at $500.00 per month.

c. Cost of repairs: Includes the following: Repairs to cook house, water system, cooking equipment, etc. $1,000.00.

d. Cost additional facilities: None

e. Cost items of equipment: None

f. Operator proposes to rent the following equipment on an operating per hour basis, including equipment, fuel, maintenance, repairs etc.

365' Compressor complete with receiver, pipe, air hoses required..$6.95 per hr.

Diesel Generating Plant, 75 KW capacity, complete with fuel, electric wiring to required locations.....$5.00 per hr.

Electric driven blower to drifter drills, one Tugger Hoist, 1 Double Drum slusher hoist, 1 Stoper -- all for $3.30 per hr.

One 1-ton Pick-up Truck ....$3.00 per hr.

The estimated hours required per week on a double shift basis for the above equipment will require a total of $1,672.00, based on a 6-day week two shifts each day of 8 hours each on all of the equipment with the exception of the Pick-up Truck which is based on the total use of 4 hours per shift.

g. Rental value of equipment owned. None.

h. The following equipment and supplies will be required forthe project, most of which will be purchased within the first 30 days of the operation:

3 Miner's picks, 6 Shovels, Hand Tools and Wrenches, 6 Hard Hats, 400' Flexible Vent Tube, 1000' mine rail with track plates and spikes, 250 mine rail ties, 600' 1½" air pipe, 600' 1½" water pipe, 600' electric light cable, 200 drill bits, 20 pieces drill steel, 20 boxes powder, electric lights and batteries, 10 Miner's lamps, 300# carbide, 200 wedges, 350' 1/2" Cable. Total estimated cost of the above items approximately $2190.00.

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

23. i. Power included in Paragraph f above.
Water supply system now installed intact.
Other utilities included.

j.

24. The schedule for project, based on two-shift per day operation basis, is approximately as follows:

It will take approximately $2,500.00 per week total expense the first 2 or 3 weeks and require the addition of approximately $2,500.00 for material and supply purchases over and above the basic weekly cost.

On the basis of this application on a two-shift per-day basis, the progress should be as follows: After the first two weeks, which would cover a period cleaning up the existing work piles and getting the equipment ready for operation, obtaining manpower, supplies, materials, etc., progress of a minimum of 4½' of drift per shift or an equal amount of development raise per shift, should be accomplished. Therefore, we expect the average cost on the project per two-shift basis, to be $10,000.00 per month, and completed within 90 days.

If a single shift basis became necessary for any reason whatsoever, the project would take approximately 5 months at an average cost of $6,000.00 per month.

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA-624 X

Date received 6/4/51

Participation

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Name and address of applicant

Date May 16, 1951

FILL IN THIS BLOCK

Date of application May 16, 1951

Estimated cost $30,000.00

Mineral or metal Lead and Zinc

Percentage of Government participation 50%

Location of mine Kennedy Mining District in Pershing County, Nevada

Date of filing MF-100 May 16, 1951

DMA Docket Number, if available DMA-624 X

INSTRUCTIONS

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

THE APPLICANT

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

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

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

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

16—64067-1

THE PROPERTY

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

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

*11. State the present and former names of the property, if any.
*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.
*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.
*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.
15. State in detail how the ore could be shipped and how and where milled.
*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.
*17. Production:
    (*a*) If mine is in production, furnish the following information:

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

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.
19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?
21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.
22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

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

CERTIFICATION

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

Earl Dunnebb Minerals Co. By Darrell Irwin
(Name of company) (Signature of authorized official)

May 21, 1987 Pres
(Date) (Title)

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

*Same as footnote on page 1.

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

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

6. No claims or encumbrances against the Henrietta property.

7. The application for exploration loan on this Form MF-103 does not contemplate any work or development on any claim except the Henrietta and Vera fraction claims, which are patented and owned by the applicant outright. The adjoining claims, on which we hold a lease and option, are not in any way involved in this exploration project. Therefore, subordination of interest in said lease claims is not required.

8. A financial statement has been submitted on Page 9, Form NSMB-146, of the application for Government loan.

The applicant has arranged for advances by its officers to cover its share of the proposed project, and the undersigned is prepared to guarantee ~~the~~ ~~share~~ to furnish to the applicant, as required, its share of the required investment.

9. As per Paragraph 3 above, the applicant is so prepared to invest $15,000.00 in the proposed project, which is sufficient to pay its part of the cost of the project, as detailed in Question 23 of this application form.

Continued on Page 2

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Supplement to Form MF-103

~~Explanation of encumbrances against the Henrietta property.~~

10. a. Mine consists of Henrietta and Vera fraction patented mining claims, located 37 miles Southeast of Imlay, Nevada, the nearest shipping point, in the Kennedy mining district, in Section 2, Township 23, Range East 37, Patented Mining Claim No. 1113134, Survey 4751, Pershing County, Nevada.

b. The area, in which the exploration is to be conducted, consists of that portion of the mine lying East of the East-end of the present drift off the winze for an estimated distance of approximately 500 feet, all located on the above patented claim and a fraction. Maps of this area are available from the Bureau of Mines investigation.

15. High grade ore, that is consisting of 20% or higher lead content, can be shipped to Selby Smelter, as it has been in the past. Lower percentage lead and zinc content ores will have to be concentrated by a flotation process; the mill for which will have to be installed on the property. This exploration work, no doubt, will develop sufficient additional ore, combined with the present ore reserves, to warrant installation of a flotation plant on the property.

20. The exploration will be conducted for lead and zinc ores. The exploration will be to develop additional blocked ore underneath the present known ore bodies, the extensions of which will be encountered in the development drift on the vein structure; the ore being heavy sulphide lead zinc.

21. The proposed work is to continue drifting on the vein 125 feet on the dip below the present No. 3 tunnel which contains considerable unmined ore and from which has been taken a large quantity of ore. This may require, for economical operation, the opening of this drift off the winze to the surface at the West. Also to run development raises through the ore bodies from the proposed extended drift to the No. 3 tunnel above it. Also the further extension of the present winze towards the lower crosscut tunnel. The estimated time to complete the project should be within 150 days on a single shift basis. If two shifts can be properly handled, then it should not require over 90 days to complete.

22. Please refer to our application filed under Form No. NMD-146 in the hands of the D.M.A. and Bureau of Mines. This contains complete data, as required in Question 22, as well as the Bureau of Mines examination report.

EAST HUMBOLDT MINES C
Room 211
206 N. Virginia St.
Reno, Nevada

23. The following figures are based on operating two shifts per day, in which case the project should be completed in 60 to 90 days.

a. Labor: Two miners $13.00 per day each, Two Muckers $12.00 per day each, 1 Tramner and Hoist Man $12.00 per day, 1 Truck Driver and Helper $13.00 per day.

Total wage labor costs, aside from that furnished by rental contractor, would be $900.00 per week on the two-shift basis. To this, should be added 10% to cover taxes, Social Security, industrial insurance. Also accounting expense, probably aggregating $50.00 per week.

b. Supervisors: One Foreman Supervisor at $500.00 per month.

c. Cost of repairs: Includes the following: Repairs to cook house, water system, cooking equipment, etc. $1,000.00.

d. Cost additional facilities: None

e. Cost items of equipment: None

f. Operator proposes to rent the following equipment on an operating per hour basis, including equipment, fuel, maintenance, repairs etc.

365' Compressor complete with receiver, pipe, air hoses required..$6.95 per hr.

Diesel Generating Plant, 75 KW capacity, complete with fuel, electric wiring to required locations.....$5.00 per hr.

Electric driven blower to drifter drills, one Tugger Hoist, 1 Double Drum slusher hoist, 1 Stoper — all for $3.30 per hr.

One 1-ton Pick-up Truck ....$9.00 per hr.

The estimated hours required per week on a double shift basis for the above equipment will require a total of $1,672.00, based on a 6-day week two shifts each day of 8 hours each on all of the equipment with the exception of the Pick-up Truck which is based on the total use of 4 hours per shift.

g. Rental value of equipment owned. None.

h. The following equipment and supplies will be required forthe project, most of which will be purchased within the first 30 days of the operation:

3 Miner's picks, 6 Shovels, Hand tools and Wrenches, 6 Hard Hats, 400' Flexible Vent Tube, 1000' mine rail with track plates and spikes, 250 mine rail ties, 600' 1½" air pipe, 600' 1½" water pipe, 600' electric light cable, 200 drill bits, 20 pieces drill steel, 20 boxes powder, electric lights and batteries, 10 Miner's lamps, 200# carbide, 200 wedges, 350' 1/2" Cable. Total estimated cost of the above items approximately $2100.00.

EAST HUMBOLDT MINES C
Room 211
206 N. Virginia St.
Reno, Nevada

23. f. Power included in Paragraph f above.
Water supply system now installed intact.
Other utilities included.

g.

24. The schedule for project, based on two-shift per day operation basis, is approximately as follows:

It will take approximately $2,500.00 per week total expense the first 2 or 3 weeks and require the addition of approximately $2,500.00 for material and supply purchases over and above the basic weekly cost.

On the basis of this application on a two-shift per-day basis, the progress should be as follows: After the first two weeks, which would cover a period cleaning up the existing work piles and getting the equipment ready for operation, obtaining manpower, supplies, materials, etc., progress of a minimum of 4½' of drift per shift or an equal amount of development raise per shift, should be accomplished. Therefore, we expect the average cost on the project per two-shift basis, to be $10,000.00 per month, and completed within 90 days.

If a single shift basis became necessary for any reason whatsoever, the project would take approximately 5 months at an average cost of $6,000.00 per month.

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

DO NOT FILL IN THIS BLOCK

Docket No. DMA-624X

Date received 6/4/51

Participation

EAST HUMBOLDT MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Name and address of applicant

Date May 16 1951

FILL IN THIS BLOCK

Date of application May 16, 1951

Estimated cost $30,000.00

Mineral or metal Lead and Zinc

Percentage of Government participation 50%

Location of mine Kennedy Mining District in Pershing County, Nevada

Date of filing MF-100 May 16, 1951

DMA Docket Number, if available DMA-624

INSTRUCTIONS

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

THE APPLICANT

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

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

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

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

16—64067-1

THE PROPERTY

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

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

*11. State the present and former names of the property, if any.
*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads.
*13. State source and quantity of water available for operations and its sufficiency at all seasons.
State amount of power to be used, rate per hour or other cost, and source.
*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.
15. State in detail how the ore could be shipped and how and where milled.
*16. History:
    (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.
    (*b*) State briefly the known history and production of adjoining and neighboring properties.
    (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.
*17. Production:
    (*a*) If mine is in production, furnish the following information:

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

*18. Ore or mineral reserves: (If property is or has been operating.)
    (*a*) Describe the ore or mineral deposits briefly.
    (*b*) Submit available maps and assay data.
    (*c*) Give estimated tonnage and grade of each class of ore reserves.
19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?
21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

    NOTE.—The Government will not participate in a project that will require more than 2 years to complete.
22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

THE REQUIREMENTS AND COSTS

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

CERTIFICATION

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

Cash Humboldt Mines Inc. By Jerry Duncan
(Name of company) (Signature of authorized official)

May 21, 1951 Pres.
(Date) (Title)

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

*Same as footnote on page 1.

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

[illegible] F. [illegible]
Room 211
206 N. Virginia St.
Reno, Nevada

6. No claims or encumbrances against the Henrietta property.

7. The application for exploration loan on this Form HF-103 does not contemplate any work or development on any claim except the Henrietta and Vera fraction claims, which are patented and owned by the applicant outright. The adjoining claims, on which we hold a lease and option, are not in any way involved in this exploration project. Therefore, subordination of interest in said lease claims is not required.

8. A financial statement has been submitted on Page 9, Form HF-106, of the application for Government loan.

The applicant has arranged for advances by its officers to cover its share of the proposed project, and the undersigned is prepared to guarantee the share to furnish to the applicant, as required, its share of the required investment.

9. As per Paragraph 6 above, the applicant is so prepared to invest $15,000.00 in the proposed project, which is sufficient to pay its part of the cost of the project, as detailed in Question 29 of this application form.

Continued on Page 2

EAST HUMBOLDT MINES C
Room 211
206 N. Virginia St.
Reno, Nevada

Supplement to Form NF-103

Liens, Claims or Encumbrances against the Henrietta property.

10. a. Mine consists of Henrietta and Vera fraction patented mining claims, located 37 miles Southeast of Imlay, Nevada, the nearest shipping point, in the Kennedy mining district, in Section 2, Township 23, Range East 37, Patented Mining Claim No. 1113134, Survey 4751, Pershing County, Nevada.

b. The area, in which the exploration is to be conducted, consists of that portion of the mine lying East of the East-end of the present drift off the winze for an estimated distance of approximately 500 feet, all located on the above patented claim and a fraction. Maps of this area are available from the Bureau of Mines investigation.

15. High grade ore, that is consisting of 20% or higher lead content, can be shipped to Selby Smelter, as it has been in the past. Lower percentage lead and zinc content ores will have to be concentrated by a flotation process; the mill for which will have to be installed on the property. This exploration work, no doubt, will develop sufficient additional ore, combined with the present ore reserves, to warrant installation of a flotation plant on the property.

20. The exploration will be conducted for lead and zinc ores. The exploration will be to develop additional blocked ore underneath the present known ore bodies, the extensions of which will be encountered in the development drift on the vein structure; the ore being heavy sulphide lead zinc.

21. The proposed work is to continue drifting on the vein 125 feet on the dip below the present No. 3 tunnel which contains considerable unmined ore and from which has been taken a large quantity of ore. This may require, for economical operation, the opening of this drift off the winze to the surface at the East. Also to run development raises through the ore bodies from the proposed extended drift to the No. 3 tunnel above it. Also the further extension of the present winze to meet the lower cross-cut tunnel. The estimated time to complete the project should be within 150 days on a single shift basis. If two shifts can be properly handled, then it should not require over 90 days to complete.

22. Please refer to our application filed under Form No. NF-103 in the hands of the D.M.A. and Bureau of Mines. This contains complete data, as required in Section 22, as well as the Bureau of Mines examination report.

PAT MCCOLLY [illegible]
Room 211
306 N. Virginia St.
Reno, Nevada

Supplement to Form [illegible]-103

23. The following figures are based on operating two shifts per day, in which case the project should be completed in 60 to 90 days.

a. Labor: Two miners $13.00 per day each, Two Pushers $12.00 per day each, 1 Tresser and Hoist Man $12.00 per day, 1 Truck Driver and Helper $13.00 per day.

Total wage labor cost, aside from that furnished by rental contractor, would be $900.00 per week on the two-shift basis. To this, should be added 10% to cover taxes, Social security, industrial insurance. Also accounting expense, probably aggregating $50.00 per week.

b. Supervisors: One Foreman Supervisor at $500.00 per month.

c. Cost of repairs: Includes the following: Repairs to cook house, water system, cooking equipment, etc. $1,000.00.

d. Cost additional facilities: None

e. Cost items of equipment: None

f. Operator proposes to rent the following equipment on an operating per hour basis, including equipment, fuel, maintenance, repairs etc.

365' Compressor complete with receiver, pipe, air hoses required..$6.35 per hr.

Diesel Generating Plant, 75 KW capacity, complete with fuel, electric wiring to required locations.....$5.00 per hr.

Electric driven blower to drifter drills, one Duplex Hoist, 1 Double Drum slusher hoist, 1 Stoper -- all for $3.30 per hr.

One 1-ton Pick-up Truck ....$2.00 per hr.

The estimated hours required per week on a double shift basis for the above equipment will require a total of $1,[illegible], based on a 6-day week two shifts each day of 8 hours each on all of the equipment with the exception of the Pick-up Truck which is based on the total use of 4 hours per shift.

g. Rental value of equipment owned. None.

h. The following equipment and supplies will be required for the project, most of which will be purchased within the first 30 days of the operations:

3 Miner's Picks, 6 Shovels, Sand Scale and Screens, 6 Hand Cats, 400' Flexible Tent Tube, 1000' nine rail with track plates and spikes, 250 nine rail ties, 600' 1½" air line, 600' 2" water pipe, 600' Electric light cable, 300 drill bits, 20 boxes drill steel, 20 boxes powder, electric lights and batteries, 10 Miner's lamps, 100# carbide, 200 wedges, [illegible] 350' 1/2" Cable. Total estimated cost of the above items approximately $2100.00.

DRT [illegible]
Room 211
206 N. Virginia St.
Reno, Nevada

Supplement to Form [illegible]-103

23. 1. Power included in Paragraph f above.
Water supply system now installed intact.
Other utilities included.

4.

24. The schedule for project, based on two-shift per day operation basis, is approximately as follows:

It will take approximately $2,500.00 per week total expense the first 2 or 3 weeks and require the addition of approximately $2,500.00 for material and supply purchases over and above the basic weekly cost.

On the basis of this application on a two-shift per-day basis, the progress should be as follows: After the first two weeks, which would cover a period cleaning up the existing work piles and getting the equipment ready for operation, obtaining manpower, supplies, materials, etc., progress of a minimum of 4½' of drift per shift or an equal amount of development raise per shift, should be accomplished. Therefore, we expect the average cost on the project per two-shift basis, to be $10,000.00 per month, and completed within 90 days.

If a single shift basis became necessary for any reason whatsoever, the project would take approximately 5 months at an average cost of $6,000.00 per month.

Form MF-100
(March 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

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

NOT TO BE FILLED IN BY APPLICANT

Docket No. Dma-624X

Date received 6/4/51

EAST [illegible] CO.
ROOM 211
206 No. Virginia Street
Reno, Nevada

Name and address of applicant

Date May 16 1951

INSTRUCTIONS

This form is to be filed with Defense Minerals Administration, Department of the Interior, Washington 25, D. C. It should be accompanied by appropriate application form when a specific type of Government assistance is requested, in the form of (1) loan, (2) purchase contract, (3) Government guarantee of a private loan, (4) ~~certificate pursuant to the provisions of Sec. 124-A (Amortization Deduction) of Internal Revenue Code, 1950,~~ (5) priorities or allocation of mining equipment, and maintenance, repair and operating supplies, and ~~(6)~~ 5 other forms of Government assistance that might arise under the Act. Submit four (4) signed copies of the form and accompanying papers. Name and address should be stamped or typed on each sheet of this form and all accompanying papers. *When a question is inapplicable it should be so stated on the form.* Additional sheets may be attached in answering any questions or in supplying additional information. (IF YOU CANNOT ANSWER A QUESTION, SO STATE.) If a question is answered elsewhere indicate where answered. It is not necessary to answer it again.

GENERAL TECHNICAL DATA

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

1. Materials produced:
   (*a*) What are the chief mine, mill, or smelter products?
   (*b*) What are the byproducts, if any?
2. Name(s) and type(s) of mine(s), mill(s), smelter(s), refinery(ies), pit(s), quarry (ies), drilling operation(s). Include old names of property, if any. Show extent of workings, including the following:
   (*a*) Linear feet of shafts.
   (*b*) Linear feet of drifts and crosscuts.
   (*c*) Linear feet of tunnels or adits.
   (*d*) Linear feet of other mine openings (explain briefly).
   Indicate whether mine is flooded or not. Describe any pumping problems. Give size or productive capacity.
3. For each operation listed above supply the following:
   (*a*) Distance and direction from nearest town and shipping point.
   (*b*) Mining district.
   (*c*) Township, Section, Range.
   (*d*) County, State.
4. (*a*) State whether or not property is now in operation, and if in operation, by whom operated.
   (*b*) Are you operating this property as:
   - ☒ Owner.
   - ☐ Lessee.
   - ☐ Contractor.
5. Number of years in production 40 years
   If not in production or operation, estimated date when production will begin 60 Days
6. Experience of operators:
   Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who manage the project.
7. History:
   (*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for suspension of operation.
   (*b*) State briefly the known history and production of adjoining and neighboring properties.
   (*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

16—63792-1

8. Names and addresses of Officers, Directors, or Partners, and in addition thereto, the five largest stockholders if applicant is a corporation.

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
Barney Dennison Reno, Nevada	Pres. & D.	None	$50,000	1,300,000		None	
E.O.Thorwaldson Los Gatos, Calif.	Sec.Tr. & D.	None	$30,000	800,000		None	
T.Arnott Palo Alto, Calif.		None		50,000		None	
Gerry Eden Lovelock, Nevada	Director	None			0	None	
H.Malaney Reno, Nevada		None		50,000		None	
	Total		x x x x x	2,200,000		x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$250,000.00	$220,000.00	$10¢	2,200,000	None Paid
Preferred stock	$	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)	Mine Ore	600 Ton	200 Ton	100 Ton	-
2. Quantity of product processed (specify unit of measure and type of process)	Gravity Mill	600 Ton	200 Ton	100 Ton	-
3. Quantity and grade of product sold or shipped (specify units of measure)	Concentrate	150 Ton	100 Ton	25 Ton	-

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves.

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

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

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

TOTAL ORE OR MINERAL RESERVES

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

(*c*) If placer:

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

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

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

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

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

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

13. Access Roads:

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

14. Water Supply:

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

15. Power:

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

16. Labor:

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

17. Equipment and Facilities:

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

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

CERTIFICATION

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

Earl Humbrecht Mines

(Name of company)

By [signature]

(Signature of authorized official)

May 21, 1957

(Date)

President

(Title)

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

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

[illegible]
Room 211
306 N. Virginia St.
Reno, Nevada

Supplement to
Form MF-100

1. [illegible]
   a. Lead, zinc, gold, silver
   b. None

2. Mine consists of [illegible] and [illegible] patented mining claims, owned by this company, and eleven (11) surrounding claims, controlled under lease-option, known as J and C claims. The [illegible] is an underground mine. It has been known as the Waverly mine; also as Riley Hill.

   a. 450 linear feet of shafts.
   b. 500 linear feet of drifts and cross cuts.
   c. 3400 linear feet of tunnels or adits.
   d. -

   Mine is not flooded, as mining area is well drained by lower crosscut tunnel. No pumping problem.

   Mine, at present, is able to produce about 25 tons a day.

3. a. Located 37 miles Southeast of Imlay, Nevada, the nearest shipping point.
   b. Located in the Kennedy mining district.
   c. Located in Section 2, Township 28, Range East 37, Patented Mining Claim No. 111314, Survey 4751.
   d. Pershing County, Nevada.

4. a. Property is not in operation at present.
   b. Owner

5. Has produced ore over a period of 40 years.

   Can begin production within 60 days.

6. EXPERIENCE OF OFFICERS:

   Mr. Harvey Dennison, President of our Company, has for the past three years been in charge of the experimental development work on our mining property. He has had management experience since 1924, including branch Managership experience with major motor truck manufacturers for ten years, and for 15 years managership of his own business involving the purchase, sale and application of mining machinery; also the engineering and installation of such machinery in all types of mining operations in both California and Nevada.

   Mr. E. C. Thorvaldson, Secretary-Treasurer of our Company, has had many years experience in handling the fiscal affairs of several mining companies; also managership of a large gold mining company in California prior to World War II, involving the use of equipment identical to that needed on our property. His business experience includes almost 20 years in the Investment business, during which time he has been associated with top-flight companies including Dankamerica Company and Blythe & Co., Inc., from which business he has been retired for several years to look after his personal business interests.

WEST HOOCHEY MINES CO.
Room 211
206 N. Virginia St.
Reno, Nevada

Supplement to
Form MT-100

6. EXPERIENCE OF OFFICERS (Contd.):

Mr. Albert Silver of Reno, Nevada, is our consulting geologist. He is widely and favorably known in mining circles, being employed by some of the major mining operators, including the Getchell Mine.

A full-time experienced mill superintendent will also be employed; also an experienced underground foreman who knows how to get the ore out of the mine. We have these picked out, and they are presently available.

7. HISTORY:

a. General Description of mineral showings. The surface outcropping of the vein extends over an area approximately 1200 feet long. Four tunnels have been driven into the vein horizontally at different elevations. The three upper tunnels range between three to four hundred feet into the vein, the lenses of ore therein being oxide. The fourth, or main working tunnel, encounters sulphide ore approximately two hundred feet from the portal and continues another 750 feet, and contains in this distance five major ore bodies consisting of lenses varying in length from 50 to 200 feet. At various times in past years, some ore has been removed from all of these ore bodies, the work being done mostly by hand, and the ore shipped without treatment of any kind at the mine. This operation necessarily meant that only the high-grade ore was taken out.

The present unremoved faces of ore showing indicate an average metal content of approximately 5% Zinc, 5% Lead, 2% Arsenic, 15 oz/Ton Silver, and 20 dw/Ton Gold over an average mineable width of 4 feet. Considerable tonnage of ore has been blocked out and the vein proven at a depth of 350 feet below main tunnel, as shown by maps which accompanied our Application for Production Loan on file with the Defense Minerals Administration (Form MSPB-146). A crosscut tunnel was driven years ago under present workings and crossed the vein 350 feet below the main working tunnel on the dip of the vein. No ore was ever removed from this crosscut tunnel because of the threat of litigation regarding the vein being opened on our property. This crosscut tunnel encounters the vein approximately 900 feet from its portal, and the assay reports on two samples taken at this point showed metal content as follows:

	Pb%	Zn%	Au oz/ton	Ag oz/ton
Sample #1	11.5	3.6	Trace	15
#2	13.0	16.1	.44	24

The #2 sample was selected high grade ore, while No. 1 was taken at random.

From the main working tunnel, a winze has been driven on the vein in ore approximately 175 feet down on the 30% angle of dip of the vein. This winze is in the ore all the way down, the ore ranging from three to six feet in width, and carrying the values above noted. A drift in both directions at 125 feet below main tunnel on dip encounters ore in both directions. Some ore has been removed between the tunnel and drift, and none has been taken out below bottom level of the winze.

7. [illegible]

a. Known Dimensions of the Deposit. As described in the paragraph above, it is known that the deposit extends approximately 1200 feet horizontally and at least 700 feet vertically on dip of vein. As previously stated, removal of ore in years past was done by hand, and discontinued when either a depth or height of feasibility was reached. Ore still shows on all faces where such work was discontinued. The surface geology indicates that the ore body may extend over considerable wider area.

History of Deposit. This deposit was originally discovered in the 1870's by British interests, who drove into the oxide ore and quit upon reaching the sulphide deposits. Approximately forty years ago, the main tunnel was driven into the sulphide ore and over a period of more twenty years, mining was carried on by hand labor. During this time, it was worked by Mr. Frank Forverly, the owner, and various lessees. They mined out several thousand tons of high grade, shipping to smelter without treatment. Because of the necessity of maintaining a high grade of ore suitable for shipment, only the best was taken out, and, as a result, a large tonnage of ore containing good values in lead and zinc remain in the mine at the present time. The Forverly claim, which we now own and have patented, contains the open of all the known ore bodies in the area.

Approximately thirty years ago, the property immediately surrounding the Forverly claim was filed on by other interests, consisting of eleven mining claims. These people drove the lower crescent tunnel mentioned in Paragraph above, encountering the vein at a point approximately 900 feet from the portal. In the face of possible open litigation, they proved no ore. We have an option to purchase all of these claims, good for another two years, for the nominal sum of $15,000, payable out of royalty of 10% of net smelter return from ore removed from any of the claims.

We acquired ownership of the Forverly claim about 3½ years ago, and in the course of our experimental development work have driven the main working tunnel in another 200 feet, exposing ore averaging five feet in width and containing higher values in both lead and zinc than any which we had previously carried in the mine. We have removed some of the ore above the main tunnel, which we treated in a gravity plant and shipped the resulting concentrate to a smelter. Some of our smelter return sheets are attached hereto. We have also stoped out some ore between drift off winze and the winze itself, which was likewise treated and shipped to smelter. During the past 3½ years, we have mined approximately one thousand tons and shipped the resulting gravity concentrates, helping us to defray our development expense.

b. Adjoining and neighboring properties of Kennedy, Four miles Southeast, produced considerable quantities in early days, and of record.

c. Full and complete private reports, applying to this application, are filed with our application for production loan now on file with the Defense Minerals Administration on Form MMB-146.

11. As shown in our application, above referred to, we contemplate increasing production

11. contd.
to 100 tons a day and the addition of a flotation plant.

12. Oil or Natural Gas:
a. Answered fully in our application, above referred to.

b. This information available by Bureau of Mines report, made after examination, resulting from above referred to application for loan.

13. Located 37 miles over good gravel road from Imlay, Nevada. Approximately 60 miles from Lovelock and Winnemucca, Nevada. Roads from Imlay to above points paved - main highway.

14. Spring above mine produces ample excellent water for camp and underground mining operations and is piped in under pressure, and is sufficient for year-round service. Mill water is developed in lower tunnel, with sufficient quantities for up to 50-ton per day mill. Additional water available within one mile out of spring with sufficient overflow to meet all requirements for 100-ton mill year round.

15. Power: Diesel generation on property.

16. Labor: In the past three years, during development and experimental milling program, we employed two miners, two muckers, one trammer, two mill men, one camp cook and one superintendent.

17. The buildings on the property include one cook house, with separate bedroom, bunk houses for eight men, compressor and tool house, one oil storage building, blacksmith shop building - all in usable condition. The mine is equipped with rail, air and water pipe in all of the sulphide working areas. There is no other equipment on the property belonging to us. We have an option to rent or purchase present mill building, gravity mill, compressor, drills, tools, etc., that are on the property not [illegible] belonging to us.

18. Further explanation on file, under above mentioned loan application.

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

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMA-624, East Humboldt Mines Company

Henrietta Mine, Kennedy Mining District, Pershing County, Nev.

Glenn G. Gentry, Mining Engineer
U. S. Bureau of Mines

Robert G. Reeves, Geologist
U. S. Geological Survey

May 24, 1951

DOCKET DMA-624

UNITED STATES DEPARTMENT OF THE INTERIOR - BUREAU OF MINES

EAST HUMBOLDT MINES COMPANY
HENRIETTA MINE, KENNEDY MINING DISTRICT, PERSHING COUNTY, NEV.

By Glenn G. Gentry[1] and Robert G. Reeves[2]

SUMMARY

The Henrietta mine of the East Humboldt Mines Co., situated in the Kennedy Mining District, is in the East Humboldt Range and in the southeastern part of Pershing County, Nev. The mine may be reached, via automobile, from Lovelock, Nev. via U. S. Highway No. 40 to Oreana, Nev., thence over a desert road to the mine, a total distance of 57.1 miles.

The purpose of the examination was to determine whether or not a sufficient tonnage of lead-zinc ore of an adequate grade was in sight or could be developed to justify a loan under the Defense Minerals Administration program.

The mine is reported to have been discovered in the 1870's and has been worked intermittently since that time for the gold-silver and lead values in the ore. Due to the isolation of the mine, only high grade ore could be mined and shipped at a profit.

The mine has been partially developed by means of four tunnels, several small stopes, raises, a winze and sublevel below the No. 3 tunnel.

1/ Mining engineer, Mining Division, Region III, Bureau of Mines.
2/ Geologist, U. S. Geological Survey.

The tunnels have followed a fissure in the bedding planes and parallel to the schist. Old stopes examined are relatively small, of narrow width and a flat dip of 25° to 30°.

The elevation at the mine camp, adjacent to the portal of No. 3 tunnel, is approximately 6,000 feet above sea level.

INTRODUCTION

Pursuant to a loan application from Mr. Barney Dennison, President and E. O. Thorwaldson, Secty-Treas., dated February 5, 1951, an examination of the Company's mining property was made by an engineer[3] of the Mining Division, Region III and a geologist[4] of the United States Geological Survey, from April 11 to 13, incl., 1951.

The engineers were accompanied by Mr. Dennison and Mr. Thorwaldson, who acted as guides. No work is being done on the property at this time and the only resident is a watchman.

LOCATION

The mining claims are located in the Kennedy Mining District, on the west side of the East Humboldt Range of mountains, in French Boys Canyon which lies in the southeastern part of Pershing County, Nev. These claims are accessible by roads either to Mill City, Nev., a distance of 36.3 miles or to Lovelock, Nev., a distance of 57.1 miles.

HISTORY AND PRODUCTION

The loan applicants have submitted the following data: "This deposit was originally discovered in the 1870's by British interests,

---

3/ Gentry, Glenn G.
4/ Reeves, Robert G.

who drove into the oxide ore and quit upon reaching the sulphide deposits. Approximately forty years ago the main tunnel was driven into the sulphide ore and over a period of some twenty years, mining was carried on by hand labor. During this time it was worked by Mr. Frank Forvorly, the owner, and various lessees. They mined out several thousand tons of highgrade, shipping to the smelter without treatment." No assay record is available for these shipments.

The East Humboldt Mines Co. acquired ownership of the Forvorly or Henrietta and Vera Fraction claims about 3-1/2 years ago and have done a small amount of mine development work. They have also constructed a small gravity concentration plant from which they report having shipped approximately 1,000 tons of concentrates.

A partial list (page 3-a) of smelter settlement sheets from the American Smelting and Refining Co., Murray Plant, Salt Lake City, Utah, have been submitted by the loan applicants to substantiate the tonnage and values of the concentrates shipped.

Date	Lot No.	Dry Wt. Lbs.	Ounces Au	Ounces Ag	Percent Pb	Cu	Zn	S	As	Fe	Sb	CaO	Insol.	Net Proceeds
Mar. 15, 1948	1	50,196	0.495	25.3	8.55	-	5.2	19.4	6.5	18.25	0.1	1.1	33.5	$ 771.44
July 19, 1948*	1	30,792	0.665	34.1	11.5	0.15	6.0	24.55	9.2	24.25	0.2	0.55	18.1	968.42
Dec. 6, 1948	3	27,512	0.478	31.85	10.4	0.225	8.5	27.55	6.6	24.45	0.2	0.45	16.5	878.92
Dec. 6, 1948	4	27,704	0.51	33.05	9.1	0.35	6.7	23.1	7.2	21.35	0.2	0.55	25.6	847.02
Jan. 12, 1949	7	31,568	0.46	30.90	10.5	0.25	8.25	24.6	7.0	23.5	0.2	0.5	18.3	993.13
May 28, 1949**	8	55,480	0.47	28.25	8.1	0.325	7.6	26.5	5.7	23.9	0.3	0.35	23.05	924.05
May 28, 1949	9	40,178	0.64	33.1	14.3	0.35	7.15	30.3	8.7	27.3	0.3	0.4	8.6	1,200.52
		(263,430	Av. 0.531	30.93	10.35	0.236	7.06	25.14	7.3	23.3	0.21	0.56	20.52	$6,583.50

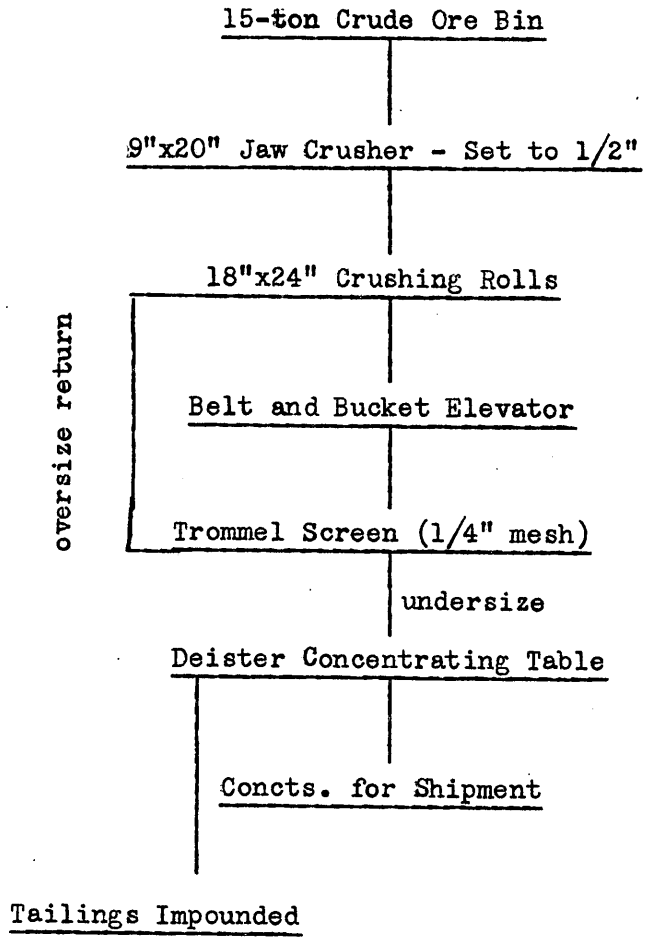
(131.715 Tons = Avg. value per ton = $49.98

* Jig only - dump ore

** Coarse jig bed concts. only

Additional shipments of concentrates are reported to have been made to the A. S. & R. Co., Selby Plant, San Francisco, Calif., but no information has been submitted as to the grade of the crude ore milled to produce the above concentrates.

The flow sheet of the gravity concentration plant is as follows:



PROPERTY AND OWNERSHIP

The mining company owns the Henrietta claim and the Vera Fraction which are patented claims and have an option to purchase the following surrounding claims held by location:

Jayansee numbers 1, 2, 3, 4, 5, 6

Abe Lincoln numbers 1, 2, 3, 4

at a cost of $15,000 payable on a 10% royalty basis from production. This option will expire in about two years time. The examining engineers did not investigate the titles to any of the claims or their status at the County Recorders office in Lovelock, Nev.

The following buildings, machinery and equipment are now located on the Henrietta claim and in the No. 3 level of the mine:

Blacksmith shop and compressor room combined - frame building covered with corrugated sheets.

1 450-cu. ft. capacity, Worthington air compressor, driven by 1 125-horsepower White, gasoline engine. Power to compressor transmitted by 9 Vee belts.

1 Blacksmith forge, hand operated.

1 Blacksmith anvil - misc. small tools.

1 Jackhammer)
2 Drifters) Fair condition.
2 Stopers)

Mine - No. 3 Level:

Track and 1 mine car - steel body, end dump, 1500 lbs. capacity. Misc. pipe lines for water and air.

1 Little tugger air hoist - with 3/8" steel cable. (Good condition)

1 Small mine skip. Rail in winze.

Bottom level of winze:

18" Ga. track and 1 mine car, steel body, end dump, 1500 lbs. capacity.

Lower tunnel:

18" Ga. track and 1 mine car, steel body, end dump, 1500 lbs. capacity.

Outside of No. 3 level:

1 water tank, metal, size: 11'x9'x8', capacity about 8,000 gals.
Mine track on dump (1 mine car - poor condition).
Small amount of mine rail and misc. size black iron pipe.
1 15-ton ore bin (timber construction).

1 Mill bldg., frame, covered with second hand corrugated sheets. (Fair condition).

1 150 horsepower GM Diesel engine connected to 75 kw GE generator, 220/440 V. (300 hrs. since engine overhaul).

1 LeRoi, 60 horsepower, gasoline engine connected to 25 kw Westinghouse generator. (Has operated 500 hrs.)

1 O'Farrell, jaw type crusher, 9"x20", fairly good jaw plates. Belt driven by electric motor.

1 Set of crushing rolls (no name) 18" face x 24" diam. (Roll shells in fair condition).

1 Belt and bucket elevator, 6 ply belt, 12" wide, 6"x12" buckets, head and tail pulley on 24'cc, looks to be in good condition.

1 Trommel screen, 4'x6', 1/4" mesh (poor condition).

1 Deister concentrating table, belt driven. (Needs new linoleum and riffles).

1 30-horsepower GE motor and jack shaft to drive crushing rolls.

Misc. small electric motors. (Reported to be in good condition).

Necessary electric switches to operate mill motors. (Reported to be in good condition).

Camp Buildings:

1 Cook house (frame).

2 Small bunk houses (frame, covered with second hand corrugated sheets).

1 Trailer house (wood). Fair condition.

1 Oil storage building. (Frame, covered with second-hand corrugated sheets).

The mining company report that they have spent approximately $75,000 on the property during the past 3-1/2 years.

Roads

From Lovelock, Nev. to the mine, the first 14.4 miles is on U. S. Highway No. 40 which is an "all weather" road thence by 42.7 miles of desert road, of which about 10 miles are over a range of mountains where heavy gradients are encountered. The last 3 miles of the mine road is through a narrow canyon over unimproved roads. The entire road at present is passable but heavy hauling would be slow and expensive until necessary road repairs are made.

Heavy machinery would probably be hauled from Mill City to the mine, a distance of 36.3 miles, over desert roads.

Power

No electric power is available at the mine or in the district. Therefore, it will be necessary to provide an adequate Diesel power plant for any expanded operations.

Water

Sufficient water is available for domestic use and the scale of the past mining and milling operations. It would be necessary to provide additional water for a larger mill and the mine owners con-

sider this can be done from a spring located in the canyon east of the lower tunnel, which would require the installation of about 2,000 feet of pineline and a pump.

Labor

Due to the isolation of the mine, the recruiting of competent labor will be difficult. It will be necessary to provide good accommodations. The two nearest sources for labor are Lovelock, Nev. and Winnemucca, Nev.

GEOLOGY

The bedrock is greenstone and greenschist, believed derived from basic or intermediate flow rocks and intercalated tuffs. Studies of hand specimans reveal epidote, chlorite (?) and plagioclase (albite ?). The planes of schistosity, and prominent jointing in the more blocky greenstone, dip approximately 25-30 degrees to the south and west. The whole has been gently folded, with fold axes trending approximately NE-SW and dipping to the SW.

A highly silicified, altered andesite (?) crops out approximately 1,000 feet east of the portal of the No. 3 adit. This outcrop has an approximate strike of N. 15° E. Because of its high degree of silicification, it is resistant to erosion, and forms prominent scarps. This andesite (?) may be an instrusive phase of the more highly metamorphosed flow rock.

Bedrock is cut by numerous faults. The most pronounced is a NE-SW trending, almost vertical fault cutting across the structure about 500 feet east of the portal of the No. 1 adit. What is be-

lieved to be this same fault is cut in both the No. 1 and No. 3 adits. Another fault, approximately parallel to the one mentioned above, is exposed in a N-S gully, about 700 feet northeast of the No. 3 adit portal. Other bedrock faults and slips are exposed in all four major tunnels and in several of the smaller adits on the Abe Lincoln No. 1 and No. 2 claims.

The mineralized zone, along which most of the work has been done, follows a thrust (?) fault in the greenstone and schist. This fault is parallel to the schistosity and to a prominent joint set in the greenstone. Both foot and hanging walls are greenstone or green schist. Mineralization along the fault has been in the form of quartz and sulphide, principally galena, sphalerite, and pyrite, with minor chalcopyrite, deposition. Extensive alteration of the fault gouge, to a claylike material, has taken place. In several areas in the mine, a soft, black, material occurs in the fault zone. This is believed to be a fault gouge which has undergone less alteration than the bulk of the gouge.

Sulphides occur as bands or ribbons which most often lie on the foot and hanging walls. The bands, and small, irregular lenses, also occur within the vein, separated, in the upper portions of the vein, by thoroughly altered fault gouge. The sulphide bands and lenses range in thickness from one-half inch to fifteen inches. At depth, the banded structure of the vein is less apparent; quartz and sulphides appear to be in more or less intimate mixture.

In the upper portion of the vein, oxidation of the sulphide minerals has been virtually complete, and the ore minerals are in the

form of earthy oxides and carbonates of Pb and Zn. Some malachite, azurite and a sulphate of copper, believed to be chalcanthite, are also found in the oxidized zone.

Along the mill, or No. 3 level, about 400 feet from the surface down the dip of the vein, sulphides predominate over the oxidized material.

The lower limit of the transition zone, in which are found both sulphide and oxide minerals, is believed to lie just below this level. In several underhand stopes off this level, oxidized ore is recognized only a few feet below the floor, and the faces of the stopes, generally 15 to 20 feet down the dip, are in sulphide ore.

Very little quartz is found in the upper levels. The sulphide mineralization is generally in streaks, or bands, in the altered fault gouge. In the sublevel off the winze, and in the lower Jayansee tunnel, much more of the vein filling is in the form of quartz.

Mineralization is believed to have taken place in at least two periods. In addition to the normal suite of sulphide minerals found in the vein itself, light colored pyrite is found in the gouge of the faults displacing the main mineralized fault. This same "barren" pyrite is found in the altered gouge in the upper part of the ore body.

The vein varies in width from a few inches to almost 4 feet. It seems to have its greatest width on the crests of rolls and to be thinnest in the troughs.

The vein has been cut by what is believed to be the same fault near the face, or eastern end, of the No. 1 and No. 3 levels. Neither

the No. 2 level nor the sub-level off the winze has been driven a sufficient distance to reach the fault. No indication of the direction of movement is present underground, but evidence along what is thought to be the extension of this fault on the surface indicates the last movement on the fault was nearly vertical. If the mineralized fault cut by the two uppermost short adits on the Abe Lincoln No. 1, and the two upper adits on the Abe Lincoln No. 2, is the faulted extension of the Henrietta vein, then the northwest block has been downdropped with respect to the southeast block. As this mineralized fault is also parallel to the schistosity, with approximately the same dip and very nearly the same strike as the eastern end of the Henrietta vein, it is thought to be its southeastern extension. Numerous other minor faults, or slips, cut the vein; however, none displaces the vein significantly, and few are mineralized.

ORE RESERVES

Measured ore	None
Indicated ore	None
Inferred ore	5,100 tons

Due to the character of the ore deposit, it is considered that the commercial mineable tonnage of the inferred ore will be further reduced to approximately 2,500 tons.

From the average analysis obtained by the 39 samples taken, it appears that selective mining would be necessary.

The thrust (?) fault controlling vein deposition may persist to depths well below the present lower workings. It does not appear that the vein will widen to any appreciable extent. Sulphide deposition is largely confined to the fault zone, at no place does re-

placement of the walls seem to be an important factor in ore deposition. In order to further explore the possibilities of the property, it is recommended that the No 3-1/2 sub-level be extended in an easterly direction to the probable fault zone, and that the vein be further prospected by means of raises to the No. 3 level. This work could be recommended under an exploration program. Further exploration work, consisting of drifting along the vein from the lower (Jayansee) tunnel, with raises to the No. 3-1/2 sub-level, would be indicated provided development work on the No. 3-1/2 sub-level uncovered appreciable ore.

SAMPLING

Sample No.	Percent Pb	Percent Zn	Percent Cu	Percent As	Oz./T Au	Oz./T Ag	Description
24	0.3	0.5	0.01	0.10	Trace	0.10	Face of No. 2 tunnel. 24" cut across vein - oxidized material.
25	0.1	0.4	0.03	0.10	0.005	0.70	No. 2 tunnel, 85' west of face, 26" cut across vein; soft oxidized material; some sulfides on hanging wall.
27	0.1	0.3	0.04	0.11	0.01	0.40	No. 2 tunnel, 20' west of underhand stope; 33" cut across vein. Oxidized material.
28	0.1	0.3	0.03	0.10	Trace	Trace	No. 2 tunnel, in raise to surface. 25' down from top of raise. 38" cut across vein on west wall. Oxidized material.
29	0.2	1.6	0.05	1.58	0.10	4.55	No. 1 tunnel, 15' back from face of drift. 35" cut across vein. Oxidized material.
30	0.1	0.3	0.02	0.77	0.035	2.00	No. 1 tunnel, west of sample No. 29 and opposite old sample No. 66. 42" cut across vein on hanging wall side. Oxidized material.
31	5.1	0.9	0.74	3.17	0.25	15.10	No. 1 tunnel, south wall, 8' east of stope. 36" cut across vein on hanging wall side. Oxidized material.
32	2.4	1.0	0.09	2.50	0.20	14.70	No. 1 tunnel, hanging wall side, under old raise, 24" cut across vein. Mostly oxidized.
33	0.9	0.2	0.03	3.35	0.22	4.50	No. 1 tunnel, south side, under hanging wall, west of sample No. 32. 42" cut across vein. Oxidized material.
26	0.1	0.4	0.06	1.17	0.21	2.00	No. 3 tunnel, north wall of east-west drift off main tunnel, near portal. 44" cut across vein. Oxidized material.
34	18.2	3.0	0.58	2.60	0.76	29.90	No. 3 tunnel. Taken at collar of east branch of winze. 13" cut across vein on east wall. Oxides and sulfides; shows some lead sulfides.
35	5.8	4.2	0.06	1.55	0.16	8.95	No. 3 tunnel. West wall of east branch of winze. Approx. 60 ft. below collar. Taken across 42" vein of oxides and sulfides.
36	12.9	5.0	0.17	1.32	0.11	26.20	No. 3 tunnel. East wall of east branch of winze. Opposite sample No. 35. Taken across 51" vein of oxides and sulfides.

Sample No.	Percent Pb	Zn	Cu	As	Ox./T Au	Ag	Description
37	4.4	5.4	0.14	2.86	0.19	11.20	Sub-level below No. 3 tunnel. At bottom of winze below sample No. 36. Taken across 54" vein. Oxidized material shows some sulfides.
38	2.8	2.6	0.13	2.62	0.09	7.50	Sub-lvel below No. 3 tunnel. Face of north drift. Taken across 56" vein; shows oxidized and sulfide material.
41	0.2	1.1	0.05	0.78	0.16	1.30	Sub-level below No. 3 tunnel. South wall of east drift, about 40' ~~west~~ east of sample No. 38. Taken across 27" vein. Mostly sulfides.
42	0.1	0.3	0.03	0.20	0.03	0.25	Sub-level below No. 3 tunnel. 46' east of sample No. 41. Taken across 21" vein; shows some sulfides.
43	0.2	2.2	0.06	2.22	0.25	3.70	Sub-level below No. 3 tunnel. Opposite sample No. 38. Taken across 27" vein. Mostly sulfides.
44	0.1	0.6	0.03	0.68	0.055	1.25	Sub-level below No. 3 tunnel. 20' east of main winze. Taken across 48" vein at bottom of old stope.
45	0.1	1.9	0.05	3.92	0.17	2.05	Sub-level below No. 3 tunnel. North wall of west drift. 25' west of winze. Taken across 27" vein. Heavy sulfides.
46	0.2	0.3	0.03	0.45	0.02	1.80	Sub-level below No. 3 tunnel. North wall of west drift. 39' west of sample No. 45. Taken across 30" vein. Oxides and 6" band of heavy sulfides.
47	0.1	0.5	0.05	0.47	0.025	3.30	Sub-level below No. 3 tunnel. Face of drift. Taken across 30" vein. Oxidized, very little sulfides.
48	0.1	1.6	0.02	1.80	0.075	0.25	Bottom of main winze below No. 3 tunnel. Taken across 32" vein on east wall. Heavy sulfides.
40	1.2	5.1	0.07	1.52	0.10	6.30	No. 3 tunnel. 10' underhand stope about 30' back from face of tunnel. Taken across 36" vein in face of stope. Heavy sulfides.
49	0.1	0.5	0.01	0.10	Trace	0.30	Underhand stope 20' deep below No. 3 tunnel. 1st stope west of sample No. 40. Channel cut across 37" vein in face of stope. Mostly mud and gouge. Shows very little mineralization.

Sample No.	Percent Pb	Zn	Cu	As	Oz./T Au	Ag	Description
50	9.6	1.4	0.15	5.80	0.45	27.20	No. 3 tunnel level. About 30' west of sample No. 49, channel cut across 30" vein carrying a 15" band of heavy sulfides.
51	0.2	0.6	0.08	4.20	0.27	4.35	No. 3 tunnel level. About 110' west of sample No. 50, channel cut across 36" of vein and slaty material. The gouge material of the vein is mineralized.
52	0.1	0.3	0.03	1.05	0.11	0.40	No. 3 tunnel level. North wall. About 30' west of sample No. 51. Channel cut across 29" vein under old stope. There is probably an underhand stope here but it is backfilled.
53	0.1	0.4	0.03	0.23	0.02	1.30	38' underhand stope below No. 3 tunnel. East wall of stope. Channel cut across 29" of black shaly material. Very little ore shows in this stope. The stope is probably over the vein.
54	1.9	1.2	0.11	2.85	0.41	16.90	15' underhand stope below No. 3 tunnel. East wall at bottom of stope. 75' west of sample No. 53. Channel cut across 27" vein carrying 10" band of heavy sulfides.
55	0.1	1.7	0.07	1.42	0.13	8.15	60' underhand stope below No. 3 tunnel. West wall 12' above bottom of stope. Channel cut across 17" vein.
56	1.0	2.5	0.10	1.60	0.125	4.55	Same underhand stope as sample No. 55. East wall of stope about 20' below No. 3 tunnel level. Channel cut across 30" vein carrying a small amount of sulfides.
57	0.2	1.1	0.06	1.13	0.16	7.05	South wall of No. 3 tunnel. About 35' west of stope samples Nos. 55 and 56. Channel cut across 39" of oxidized material.
58	2.5	2.9	0.10	3.54	0.25	6.55	Face of 1st overhand stope west of No. 3 tunnel face. Channel cut across 34" vein near east wall of stope.

Sample No.	Percent Pb	Zn	Cu	As	Oz./T Au	Ag	Description
59	0.1	0.3	0.05	0.16	Trace	0.25	Same stope as sample No. 58. Face sample, middle of stope about 40' above No. 3 tunnel. Channel cut across 36" vein.
60	2.3	1.5	0.20	5.70	0.33	9.40	Same stope as samples Nos. 58 and 59. West wall of stope about 10' above No. 3 tunnel. Channel cut across 29" vein.
61	0.1	0.3	0.05	4.82	0.24	2.15	Overhand stope above No. 3 tunnel. East wall about 65' above No. 3 tunnel. Channel cut across 18" vein.
62	0.1	0.4	0.01	1.40	0.92	7.60	1st overhand stope, east of main winze, and about 65 ' above No. 3 tunnel. Channel cut across 18" vein in face of stope.
39	4.7	1.9	0.10	1.18	0.025	6.70	Lower tunnel. Junction of vein with J and C tunnel. Channel cut across 24" vein on southwest side of tunnel. Sampled by Robert Reeves of U.S.G.S.

The average values obtained from the 39 samples are as follows:

Gold	0.169	ozs. per ton
Silver	6.43	ozs. per ton
Lead	2.02	percent
Zinc	1.45	percent
Arsenic	1.823	percent
Copper	0.095	percent

MINE DEVELOPMENT

The mine workings comprise four tunnels, with several medium sized stopes, raises, a 175 foot winze and a sublevel below the No. 3 level tunnel. The total development has amounted to approximately 5,000 linear feet.

PHYSICAL CONDITION OF MINE

Mining operations will probably be confined between the elevations of the No. 2 tunnel and the lower tunnel. The No. 2 tunnel for a distance of about 100 feet is partly filled with loose muck which has been washed down from the surface. This fill is within about 24 inches of the back of the drift.

In the No. 3 tunnel considerable cleaning up will be necessary and decayed timbers (both in the tunnel and stopes) should be replaced. It will also be necessary to provide adequate ventilation.

Narrow widths and flat angle of the vein will make drilling operations difficult in the stopes and probably require the use of a slusher to remove the broken ore.

Raising on the vein from the lower tunnel will require: Cleaning out the tunnel; additional compressed air capacity; adequate ventilation; mine ties and rail; and probably a safety exit raise.

MILLING AND METALLURGY

During the applicants active operations they have constructed a small gravity concentration plant having a capacity of about 25 tons of crude ore per 24 hours. Concentration was made by means of a "concentrating table". Recovery was too low for profitable operation. The company propose to construct a modern flotation plant of 100 tons

per day capacity based upon a series of metallurgical tests made for them by the Mineral Dressing Laboratory of the American Cyanamid Company.

The mining company propose to purchase the present milling and mining equipment at a cost of $48,000 and the examining engineers consider this sum to be subject to re-evaluation. The milling machinery, with the exception of the jaw crusher, is not applicable for use in the flotation plant, and the mill building is too small.

If the future mining operations are carried on from the lower level tunnel, then the mill should be constructed adjacent to the portal of said tunnel, where the best mill site is available and the water supply more readily accessible.

A composite of the 39 samples taken by the examining engineer was used by the Metallurgical Division in making flotations tests. The results of the tests are as follows:

Re-O-2.58 Lead-Zinc Ore from East Humboldt Mines Company
Lovelock, Nevada

A sample was composited from two lots of small samples from the same property submitted for metallurgical testing by the Mining Division.

Lead occurred in this ore as galena, most of which was quite coarse-grained. Fine-grained and disseminated sphalerite was the zinc mineral present. Disseminated arsenopyrite and pyrite were also present. The gangue was quartz and altered siliceous rock. Analyses showed:

Lead, percent	2.5	Gold, ounce per ton	0.16
Zinc, percent	2.0	Silver, ounces per ton	6.05
Arsenic, percent . . .	2.1		
Total sulfur	5.3		
Sulfate sulfur	0.26		

The presence of coarse galena and a good portion of what appeared to be barren rock, suggested the possibility of at least preliminary concentration by gravity. A 200-pound portion of the ore was crushed to minus 1/2-inch size and further separated into three fractions as follows:

-1/2" + 7/32"	39.25	percent of total weight
-7/32" + 20-mesh	40.50	percent of total weight
-20 mesh	20.25	percent of total weight

The minus 1/2-inch plus 7/32-inch fraction was concentrated on the 12 x 12 Pan-American jig using a 7/32-inch punched plate screen. This operation produced tailings which appeared quite free of galena. A "bed" was also formed on the jig from this coarse fraction of ore. The minus 7/32-inch plus 20-mesh fraction was then jigged through the bed and both tailings and a hutch concentrate were made.

The minus 20-mesh fraction was treated on the laboratory Wilfley table after separation into plus and minus 48-mesh portions.

The combined gravity concentration treatment resulted in recovering 88 percent of the lead, 58 percent of the zinc, 62 percent of the gold and 67 percent of the silver in the feed, and also 66 percent of the arsenic. The ratio of concentration was 6 to 1. About 80 percent of the original ore was eliminated as jig and table tailings. About 4 percent of the original ore was retained as table middlings.

Study of the data derived from this test indicates an apparently close relation between gold and silver values with the arsenic. The recovery of lead was satisfactory, but the losses of gold and silver were high. The grade of the combined jig concentrates was low, and

altogether, the results of gravity concentration treatment were unsatisfactory.

Detailed data are shown in the following table:

Gravity concentration tests lead-zinc ore
from Lovelock, Nevada

Product size-mesh	Weight, percent	Analyses: Oz/T Au	Oz/T Ag	Percent Pb	Percent Zn	Percent As	Distribution, percent Au	Distribution, percent Ag	Distribution, percent Pb	Distribution, percent Zn	Distribution, percent As
Jig concentrates											
-1/2" + 7/32"	8.36	0.56	28.20	10.6	5.2	7.7	35.1	37.8	41.1	29.3	35.1
-7/32" + 20	6.85	0.36	20.15	10.8	5.5	5.8	18.5	22.1	34.4	25.5	21.7
Table concentrates											
-20 + 48	0.52	0.65	37.00	25.4	2.7	11.5	2.6	3.1	6.1	0.9	3.3
-48	0.85	1.00	30.80	16.9	4.2	14.3	6.4	4.2	6.7	2.4	6.6
Total conc'ts	16.58	0.50	25.30	11.5	5.2	7.4	62.6	67.2	88.3	58.1	66.7
Table middlings											
-20 + 48	1.82	0.28	11.62	3.3	7.5	4.5	3.8	3.4	2.8	9.2	4.5
-48	1.98	0.17	7.70	1.7	4.4	1.8	2.6	2.4	1.6	5.9	2.0
Total mids.	3.80	0.22	9.58	2.5	5.9	3.1	6.4	5.8	4.4	15.1	6.5
Jig tails											
-1/2" + 7/32"	30.92	0.045	1.50	0.2	0.6	0.5	10.4	7.5	2.9	12.5	8.5
-7/32" + 20"	33.75	0.05	2.15	0.1	0.3	0.6	12.7	11.6	1.5	6.8	11.1
Table tails											
-20 + 48	8.43	0.07	3.00	0.2	0.6	0.8	4.4	4.1	0.8	3.5	3.7
-48	6.52	0.07	3.65	0.7	0.9	1.0	3.5	3.8	2.1	4.0	3.5
Total tails	79.62	0.05	2.11	0.2	0.5	0.6	31.0	27.0	7.3	26.8	26.8
Composite	100.00	0.133	6.23	2.15	1.48	1.83	100.0	100.0	100.0	100.0	100.0

Flotation concentration

A preliminary flotation test was made on ore ground to minus 65-mesh. Lead flotation was achieved with a standard set of reagents, and good grade concentrates produced in one operation without cleaning.

Zinc flotation was attempted but the small amount of zinc present together with the tendency of the arsenopyrite to float with the zinc prevented making a satisfactory product although zinc recovery was fair.

The lead concentrates contained 54 percent Pb, representing 78 percent recovery, in about 4 percent of the original weight. The low recovery was apparently due to considerable sliming of galena mineral, and subsequent difficulty in recovering a tarnished slimed portion which was consequently lost in the tailings. Silver recovery was nearly the same as for lead.

The details of the flotation test were as follows:

Product	Weight, percent	Analyses Oz/T Au	Oz/T Ag	Percent Pb	Percent Zn	Percent As	Distribution, percent Au	Distribution, percent Ag	Distribution, percent Pb	Distribution, percent Zn	Distribution, percent As
Pb conc'ts	3.8	1.02	132.4	54.3	4.3	2.65	26.7	71.7	78.3	8.6	5.0
Zn conc'ts	9.2	0.60	8.2	0.2	13.9	8.95	37.7	10.7	0.7	69.2	40.6
ZnCl Tails	7.8	0.51	4.2	1.0	1.1	12.10	27.4	4.7	3.0	4.9	46.5
Rougher "	79.2	0.015	1.15	0.6	0.4	0.2	8.2	12.9	18.0	17.3	7.9
Composite	100.0	0.146	7.02	2.67	1.85	2.03	100.0	100.0	100.0	100.0	100.0

The reagents used were, in pounds per ton of ore:

Lead rougher:	sodium carbonate	1.5
	sodium silicate	0.5
	sodium cyanide	0.3
	zinc sulfate	1.0
	Potassium ethyl xanthate	0.06
	cresylic acid	0.10
Zinc rougher:	lime	1.0
	copper sulfate	1.0
	xanthate	0.06
	cresylic acid	0.05
Zinc cleaner:	lime	0.5
	xanthate	0.02

Conclusions:

It might be possible by selective mining to produce a higher-grade mill feed. This would provide a better chance for satisfactory results by fine-grinding and flotation. In order to recover sufficient of the gold content, it would probably be necessary to make three flotation products, lead, zinc,

and arsenopyrite concentrates. This would involve a complicated flowsheet and does not appear feasible for a small-scale operation. Straight gravity concentration did not yield satisfactory results on the sample tested, as neither good grade concentrates nor sufficient recovery of gold and silver were achieved. There would apparently be no advantage in making preliminary gravity concentration and discarding the tailings while regrinding the concentrates for flotation, as it would allow too much loss in gold and silver in the gravity tailings. The gold seems to accompany the arsenic mineral to a considerable extent, and while much of the silver accompanies the lead, recovery of the latter was always higher.

RECOMMENDATIONS

Extend the No. 3-1/2 sub-level in an easterly direction to the fault zone and further prospect the vein by means of raises to the No. 3 level. This work could be recommended under an exploration program.

CONCLUSIONS

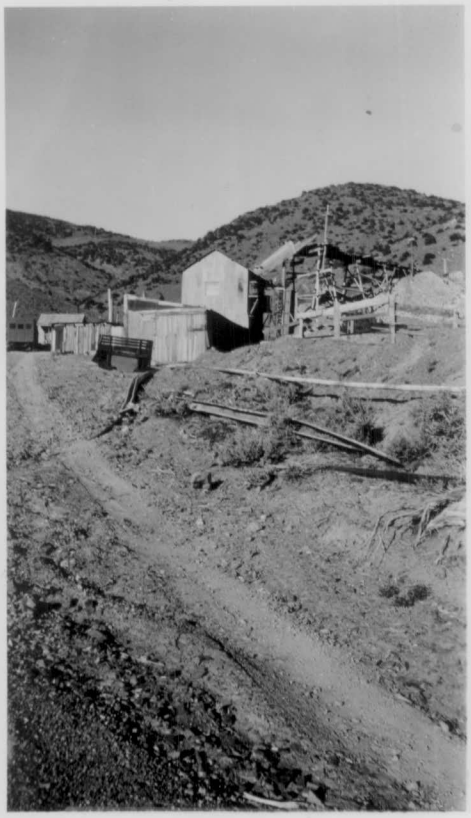
While the mine has some merit, the present development and ore reserves are entirely insufficient in tonnage and grade to justify the loan of $150,000. Therefore, the loan is not recommended.

At the present time, the mine will not support a mill of 25 tons daily capacity.

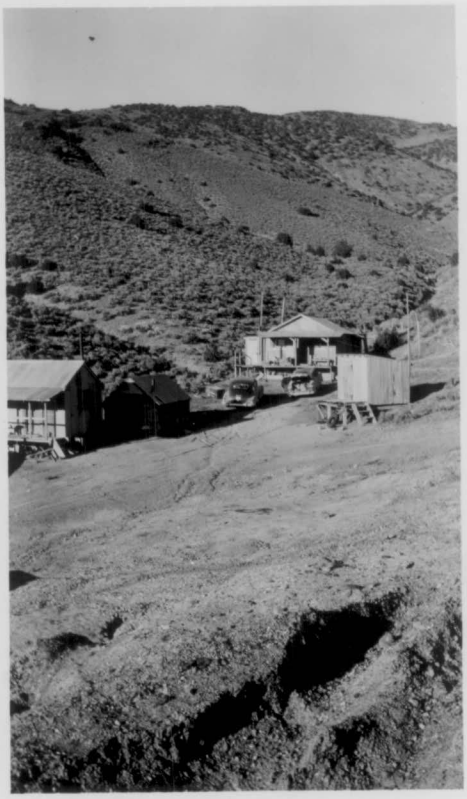
Portal of lower tunnel and
Mr. Robert G. Reeves

Dumps No. 2 level

Portal of No. 3 level



Mill Building and trestle from
No. 3 level.

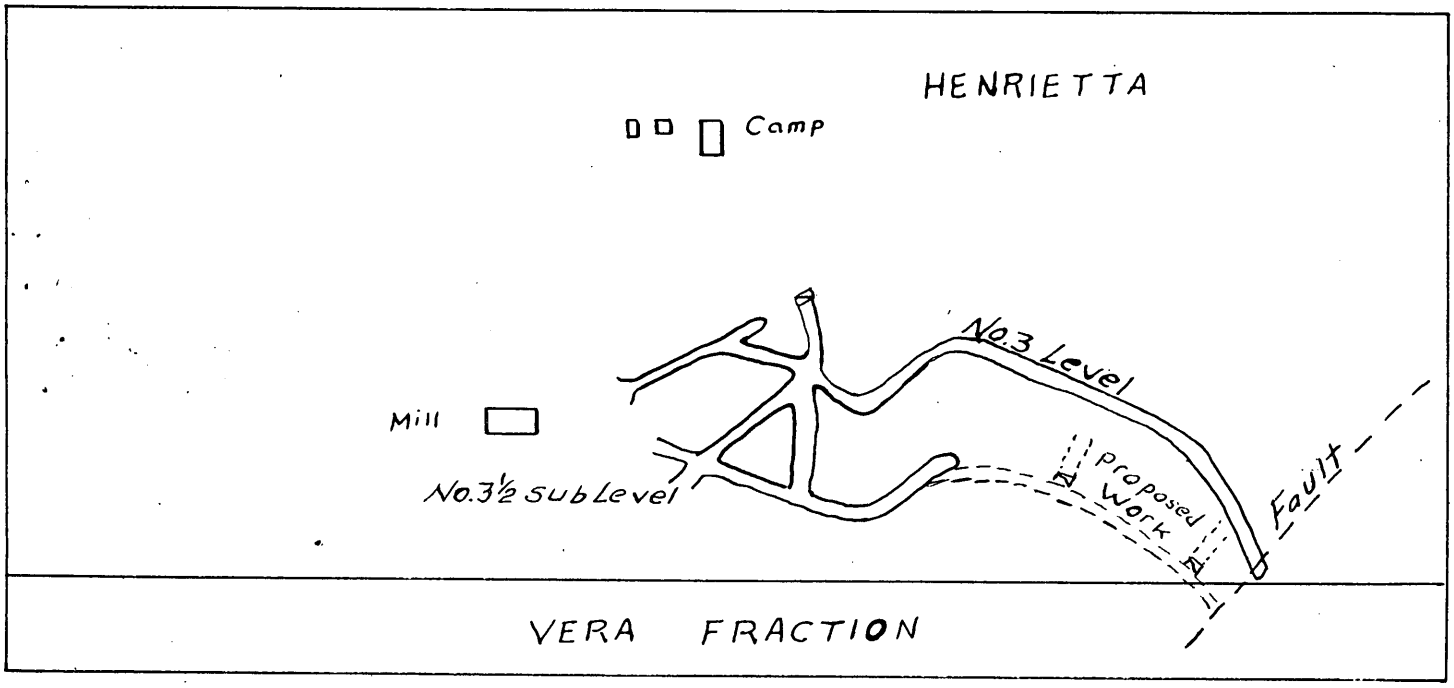


Camp buildings.

Dumps at portal of lower tunnel.

Dumps from No. 2 level.

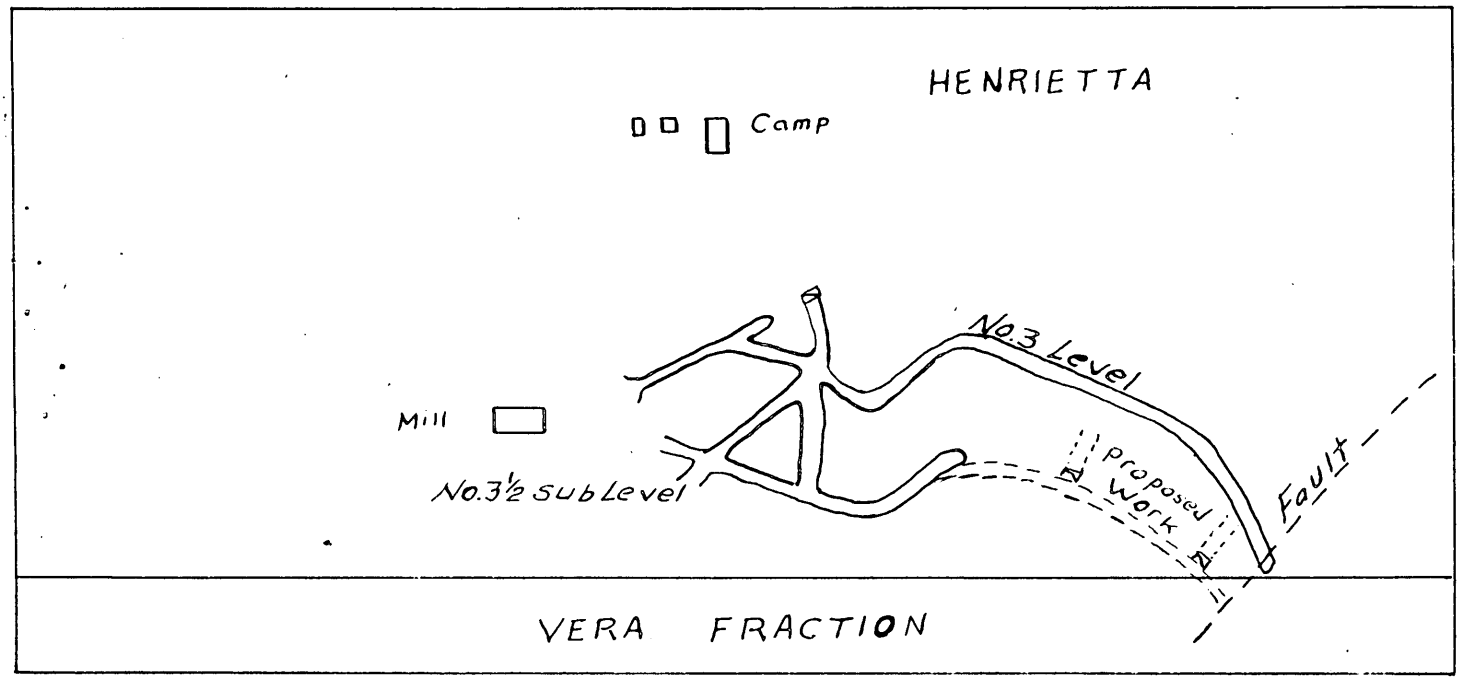
Henrietta mine and
E. O. Thorwaldson
Bill White
Barney Dennison



EAST HUMBOLDT MINES CO.

SCALE 1 inch = 200 Ft.

Proposed Work: 300 lineal ft. of 5 ft. x 7 ft. drift
2 raises (4' x 6') @ 125 lineal ft. each
Total project: 300 ft. drifting
250 ft. raises
550 ft.



EAST HUMBOLDT MINES CO.

SCALE 1 inch = 200 Ft.

Proposed Work: 300 lineal ft. of 5 ft. x 7 ft. drift
2 raises (4' x 6') @ 125 lineal ft. each
Total project: 300 ft. drifting
250 ft. raises
550 ft.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION III

OFFICE OF
REGIONAL DIRECTOR

1415 APPRAISERS BLDG.,
630 SANSOME STREET,
SAN FRANCISCO 11, CALIF.

May 29, 1951

Memorandum

To: Otto Herres, Chief, Lead-Zinc Branch, Defense Minerals Administration, Washington, D. C.

From: Executive Officer, DMA Field Team, Region III

Subject: Application of
East Humboldt Mines Company
E. O. Thorwaldson, Secretary and Treasurer
Room 211, 206 N. Virginia Street
Reno, Nevada

Re: Docket DMA-624 X
Commodity: Zinc, Lead

Reference is made to your memorandum dated March 6 relating to subject docket and your request that we make an examination of subject property to determine if the reserves and grade are sufficient to support a purchase contract for the zinc, and an appraisal of the mining and milling methods and costs to establish mining feasibility.

During the course of the field examination, it was early apparent to the examiners that insufficient reserves of ore had been developed to warrant a development loan of $150,000 to purchase mining and milling equipment for the Henrietta property. The examiners informed the officials of the company of their early conclusion that the property did not warrant a development loan and they suggested that the company apply for an exploration loan.

Accordingly the company has applied for an exploration loan on MF-103 form, four copies of which are attached. Four copies of MF-100 form also are attached.

Also attached are four copies of a report entitled DMA-624, East Humboldt Mines Company, Henrietta Mine, Kennedy Mining District, Pershing County, Nevada, by Glenn G. Gentry, Mining Engineer, Bureau of Mines, and Robert G. Reeves, Geologist, Geological Survey, dated May 24, 1951.

Docket DMA-624 is being returned herewith.

H. C. Miller
Executive Officer, DMA Field Team
Region III

Attachments

Copy to: Ward Smith

JUN 6 1951