DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

## CONTROLLED DOCUMENT

DMA Docket No. 3603

## DO NOT DETACH THIS SLIP

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This document has been recorded as

**Exploration Assistance**

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Cys to USBM & USGS

Routing Slip

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|---|---|---|---|
| To: | 500 | Date | 12/15/54 |
| To: | Oper Comm | Date | 12-17-54 |
| To: | Oper Comm | Date | 6-9-55 |
| To: | Oper Comm | Date | 6-17-55 |
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## DO NOT DETACH

## CONTROLLED DOCUMENT

XXXXXXXXXXXXXXXXXX
So. 157 Howard Street
Spokane 4, Washington

November 30, 1954

Mr. Walter March, Director
Montana State Bureau of Mines and Geology
Butte, Montana

Dear Walter:

The Mitchell Mining Company has submitted an application for DMEA assistance to explore the Marget Ann property in the northern part of the Butte district.

This application presents somewhat of a problem for us in that to the present depth of mine development the ore has been valued for its silver content, although it does contain small amounts of manganese, zinc, lead, and copper. However, the amounts of manganese, zinc, lead, and copper in present ore from the mine does not appear to be sufficient to interest the DMEA.

We have very little information in our files regarding whether or not we can expect an increase in the base metal content of the vein with depth and if so at what depth this change is likely to occur. We would appreciate any information you might be able to supply in regards to this problem. In particular any change that is known in the character of the veins in the Lexington and Alice mines.

Sincerely yours,

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

cc: USBM (2)
DMEA (2)
Quinlan

Re: DMEA application (lead-zinc-manganese-copper)
Mitchell Mining Co., Inc.
Marget Ann claims
Silver Bow County, Montana

File Copy
Surname
J. Ell
Reviewed
Selfridge
J. Bruce
Matthendorf

UNITED STATES
DEPARTMENT OF THE INTERIOR 500
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

JUN 21 1955

Mr. A. E. Weissenborn
Executive Officer, DMEA Field Team,
Region I, Northwest District
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA-3603 (Lead-Zinc-Manganese-Copper)
Mitchell Mining Company, Inc.
Marget Ann Property
Silver Bow County, Montana

Dear Mr. Weissenborn:

This is to acknowledge your letter of June 4, regarding the cited application which was denied on June 13, 1955.

In reply to the last paragraph of your letter, it is difficult to set an arbitrary figure as to base metal content. Obviously, a large, low-grade deposit would be judged by different standards than a small vein project. Generally speaking, if a project shows predominantly precious metal values, with base metal content little more than incidental, it is not considered eligible for DMEA assistance. Naturally, if there are good geological reasons for a strong increase in base metal content with added depth, such a feature should be given consideration.

In my case, since you say that a consent to lien from the owners could not be obtained by the company, it would seem that no contract could be given. It was our understanding, from your recent visit here, that the chances of securing performance bonds may be considered as negligible.

In your letter of May 13, recommending denial of this application, in the last paragraph you state: "Should the company obtain a long-term lease to the ground or purchase the claims and acquire sufficient adjoining property, a well-considered program of deep-level exploration would probably be worth consideration." Unless the Applicant can comply with those conditions we do not think that this application or a new one should be considered favorably.

Sincerely yours,

George C. Selfridge (JHB)
Chairman, Operating Committee

APPROVED:

J. H. Hedges (JHB)
Member, Bureau of Mines

Thor H. Kiilsgaard (JHB)
Member, Geological Survey

WRGriswold/er 6/16/55
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

R.C.S.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

RECEIVED
JUN 13 1955

June 4, 1955

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-3603 (lead-zinc manganese-copper)
Mitchell Mining Company, Inc.
Marget Ann property
Silver Bow County, Montana

Dear Mr. Selfridge:

Recently E. B. Olmsted and L. M. Peck, president and vice-president of the Mitchell Mining Company, visited this office to discuss their proposed project. I told them frankly that it seemed very unlikely that the project would be approved for two reasons: The first of these was that the company had a very short-term lease and therefore did not control the ground for the time that would be required in order to enter into a contract with DMEA.

The other objection was the fact that the property to the present depth of development has little in the way of base metals. The company officials told me that they were expecting to get a new lease on the Marget Ann property which would satisfy the DMEA. They also argued that the mine would have appreciable amounts of base metals. I told them that if they could produce production records from their recent operations which showed that the property at present levels contained significant amounts of base metals, it would greatly strengthen their case. As a result Mr. Olmsted enclosed these settlement sheets from the A.S. & R. and Anaconda smelters with his letter of May 9, 1955. Mr. Olmsted states that so far as he knows all of the enclosed returns are from the 550 level except Lot 470 which was from the 400 level. Inspection of these records shows that although the concentrates do contain some lead and several percent copper and that even some zinc concentrates have been made, the values are predominantly in the precious metals. If you believe that the base metal content is sufficient, the property could be reconsidered, provided, of course, that a suitable lease can be arranged; however,

until such time as a proper lease can be made, no consideration can be given. Also, the company will be unable to obtain a consent to lien from the owners, but this possibly could be gotten around by means of a performance bond.

We would appreciate any comments you might have as to the proportion of base metals to precious metals which you believe would be required before this property could be considered as coming in under the DMEA program.

Sincerely yours,

A. E. Weissenborn/o.c.p.

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I
Northwest District

Enclosures
cc: USBM(2)
Quinlan

MINE OPERATIONS
BUTTE, MONTANA

# MITCHELL MINING COMPANY, INC.

212 UNION BLOCK
MOUNT VERNON, WASH.

RECEIVED
JUN 13 1955

May 9, 1955

DOCKET NO. 3603

Mineral Deposit Branch
Geological Survey
South 157 Howard
Spokane, Washington

Att; Mr. Albert E. Weissenborn

Dear Sir;

Enclosed please find the smelter returns of the Mitchell Mining Co. since January 1, 1955. When you are finished with these we would like to have them returned as they are office copies.

You will note that there are no manganese returns in these lots as the Mill is not properly equipped with the required number of tables to save all the manganese, however, we have one table at the present time and have made one shipment to the domestic manganese plant at Butte, and it was accepted by them. We are now saving what manganese we can with the one table.

Our metallurgist informs us we should have three tables to make a satisfactory recovery of manganese and these will be added as quickly as the money is available to purchase them.

At present the mine assays on the five hundred fifty foot level are running around 8% manganese and we will be able to make a good grade of concentrate from that. You will also note that the lead, zinc and copper recoveries have increased considerably on the five hundred fifty foot level. The smelter returns we are enclosing are nearly all from development ore, averaging $22.10 per ton on 22,000 tons crude ore mined.

Our lease is now in the process of being extended for a period of three years and a copy of the lease will be forwarded to you when received. We will be very glad to furnish your office with any additional information you request in order to expedite our application.

Very truly yours,

MITCHELL MINING CO., INC.

By E. B. Olmsted
PRESIDENT

10 enclosures

RECEIVED
MAY 11 1955
U. S. G. S.
SPOKANE, WASH.

FORM NO. A-31

RECEIVED JUN 13 1955

# AMERICAN SMELTING AND REFINING CO.

## CORRECTION — EAST HELENA PLANT

East Helena, Mont., March 15, 1955

Bought of Mitchell Mining Company Mine Marget Ann Our Lot No. 178

Class Concts. Shipping Point Rocker, Montana Mine Lot No. 1

Quotations of Wks. Avg. Silver .90 Lead 15.0 ~~XXXXXX~~ Cathode Copper 29.575

| ASSAYS | GOLD Oz. per ton | SILVER Oz. per ton | Wet Lead Per Cent | COPPER Per Cent | INSOL Per Cent | IRON Per Cent | Manganese Per Cent | Sulphur Per Cent | ZINC Per Cent | ARSENIC Per Cent | Antimony Per Cent | Bismuth Per Cent | LIME Per Cent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A. S. & R. Co. | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Umpire | | | | | | | | | | | | | |
| Settlement | | | 32.9 | | | | | | | | | | |

| Car Number | Weight | VALUES PER TON | | | DEDUCTIONS PER TON | | |
|---|---|---|---|---|---|---|---|
| | | Gold | @ | | Base 10 | 20% Dry Lead | 8.00 |
| | | Silver 95% | @ | | Over | " " | 1.14- |
| | | Lead Less 90% | @ | | | | |
| | | Copper, Less | @ | | | | |
| | | Total Au. & Ag. | | 394.57 | | | |
| | | | | | | | 6.86 |
| | | | | | Insoluble | % @ | |
| | | | | | Zinc | % @ | |
| | | | | | Arsenic | % @ | |
| | | | | | Antimony | % @ | |
| | | | | | Bismuth | % @ | |
| Weight of Lot | | | | | Debit | | |
| Weight of | Sacks | | | | Iron | Lbs. @ | |
| Wet Weight | | | | | | | |
| Less Moisture | % | Less Total Deduction | | 6.86 | Total Deductions | | |
| Dry Weight | 13,888 | Pounds | @ | 387.71 | Per Ton | | $ 2,692.26 |

| | | | | |
|---|---|---|---|---|
| | Freight Per Wet Ton @ | | $ | |
| | Hauling Per Wet Ton @ | | $ | |
| | Royalty *10% Robert D. Corette Agent Butte, Montana | 210.72 | $ | |
| | Less " " " " " PREV. PAID | 209.93 | .79 | |
| Date of B/L | | | $ | |
| Date of Arrival 1-29-55 | ~~XXXXXX~~ Prev. Paid | | $ 2,684.34 | |
| Checked | Umpire | | $ | |
| Correct | Sampling When Less Than 10 Tons | | $ | |
| | | TOTAL | $ 2,685.13 | $ 2,685.13 |
| | | NET PROCEEDS | $ | 7.13 |

Rates except on contract, subject to change without notice

A minimum charge of $5.00 made on all lots under 10 dry tons

*Milling Charges $543.51

3-M-1-5-11457

FORM NO. A 31

# AMERICAN SMELTING AND REFINING CO.

## CORRECTION

EAST HELENA PLANT

East Helena, Mont., February 24, 1955

Bought of Mitchell Mng. Co. Mine Marget Ann Our Lot No. 2347

Class Concts. Shipping Point Rocker, Montana Mine Lot No. 22

Quotations of Wks.Avg. Silver .90 Lead 15.0 ~~XXXXXX~~ Cathode Copper 29.575

| ASSAYS | GOLD Oz. per ton | SILVER Oz. per ton | Wet Lead Per Cent | COPPER Per Cent | INSOL Per Cent | IRON Per Cent | Manganese Per Cent | Sulphur Per Cent | ZINC Per Cent | ARSENIC Per Cent | Antimony Per Cent | Bismuth Per Cent | LIME Per Cent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A. S. & R. Co. | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Umpire | | | | | | | | | | | | | |
| Settlement | | | | | | | | | | | | | |

To Correct Royalty with milling charges

| Car Number | Weight | VALUES PER TON | | DEDUCTIONS PER TON | |
|---|---|---|---|---|---|
| | | Gold @ | | Base for % Lead | |
| | | Silver 95% @ | | | |
| | | Lead Less 90% @ | | | |
| | | Copper, Less @ | | | |
| | | Total Au. & Ag. | | | |
| | | | | Insoluble % @ | |
| | | | | Zinc % @ | |
| | | | | Arsenic % @ | |
| | | | | Antimony % @ | |
| Weight of Lot | | | | Bismuth % @ | |
| Weight of Sacks | | | | Debit | |
| Wet Weight | | | | Iron Lbs. @ | |
| Less Moisture % | | Less Total Deduction | | Total Deductions | |

Dry Weight 42896 Pounds @ 245.31 Per Ton $ 5,261.41

| | | |
|---|---|---|
| | Freight Per Wet Ton @ | $ |
| | Hauling Per Wet Ton @ | $ |
| | Royalty *10% Robert D. Corette, Agent, Butte 338.66 | $ 172.37 |
| | Less " " " " " " prev. paid 511.03 | |
| Date of B/L | | $ |
| Date of Arrival 12-7-54 | ~~XXXXXX~~ Prev. Paid | $ 5,261.41 |
| Checked JMc | Umpire | $ |
| Correct | Sampling When Less Than 10 Tons | $ |

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

*Milling Charge $1,723.67

TOTAL $ 5,089.04 $ 5,089.04

NET PROCEEDS $ 172.37

36M-1-55-11457

FORM NO. A-31

# AMERICAN SMELTING AND REFINING CO.

## EAST HELENA PLANT

East Helena, Mont., May 6, 1955

Bought of Mitchell Mining Company Mine Marget Ann Our Lot No. 736

Class Conc. Shipping Point Rocker, Montana Mine Lot No. 7

Quotations of Wks. Avg. Silver .90 Lead 15.0 ~~xxxxxx~~ Cathode Copper 35.575

| ASSAYS | GOLD Oz. per ton | SILVER Oz. per ton | Wet Lead Per Cent | COPPER Per Cent | INSOL Per Cent | IRON Per Cent | Manganese Per Cent | Sulphur Per Cent | ZINC Per Cent | ARSENIC Per Cent | Antimony Per Cent | Bismuth Per Cent | LIME Per Cent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A. S. & R. Co. | 3.065 | 231.7 | 16.9 | 3.30 | | | | | 1.0 | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Umpire | | | | | | | | | | | | | |
| Settlement | 3.065 | 231.7 | 16.9 | 3.30 | | | | | 1.0 | | | | |

| Car Number | Weight | VALUES PER TON | | | DEDUCTIONS PER TON | | |
|---|---|---|---|---|---|---|---|
| | | Gold 92.5693% | @$35-1/4% | 99.06 | Base for Charge | Lead 8.00 | |
| Truck | 21380 | Silver 95% | @ .90 | 198.10 | | | |
| | | Lead Less 1.5 90% | @15.0-2.0 | 36.04 | | | |
| | | Copper, Less 1.0 | @35.575-6.0 | 13.60 | | | |
| | | Total Au. & Ag. | | 346.80 | | | |
| | | | | | | | 8.00 |
| | | | | | Insoluble | % @ | |
| | | | | | Zinc | % @ | |
| | | | | | Arsenic | % @ | |
| | | | | | Antimony | % @ | |
| Weight of Lot | | | | | Bismuth | % @ | |
| Weight of Sacks | | | | | Debit | | |
| Wet Weight | | | | | Iron | Lbs. @ | |
| Less Moisture 11.3 % | 2416 | Less Total Deduction | | 8.00 | Total Deductions | | 8.00 |
| Dry Weight | 18964 | Pounds | @ | 338.80 | Per Ton | | $ 3,212.50 |

| | | |
|---|---|---|
| Freight Per Wet Ton @ | | $ |
| Hauling Per Wet Ton @ 4.00 | Mazzolini Trucking Co.,&3% tax (1.28) | $ 44.04 |
| Royalty *10% | Robert D. Corrette, Agent Butte, Montana | $ 245.11 |
| | 3% Federal Bullion trnptn. Tax | 1.11 |
| Date of B/L | | $ |
| Date of Arrival 4-25-55 | Advances 4-27-55 | $ 1,900.00 |
| Checked JMc | Umpire | $ |
| Correct | Sampling When Less Than 10 Tons | $ |

Rates except on contract, subject to change without notice. *Milling Charge$716.23

A minimum charge of $5.00 made on all lots under 10 dry tons.

TOTAL : 2,190.26 $ 2,190.26

NET PROCEEDS : 1,022.24

36M-1-55-11457

FORM NO. A-31

# AMERICAN SMELTING AND REFINING CO.

## EAST HELENA PLANT

East Helena, Mont., April 27, 1955

Bought of Mitchell Mining Co. Mine Marget Ann Our Lot No. 649

Class Conc. Shipping Point Rocker, Montana Mine Lot No. 6

Quotations of Wks. Avt. Silver .90 Lead 15.0 ~~XXXXXX~~ Cathode Copper 35.575

| ASSAYS | GOLD Oz. per ton | SILVER Oz. per ton | Wet Lead Per Cent | COPPER Per Cent | INSOL Per Cent | IRON Per Cent | Manganese Per Cent | Sulphur Per Cent | ZINC Per Cent | ARSENIC Per Cent | Antimony Per Cent | Bismuth Per Cent | LIME Per Cent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A. S. & R. Co. | 2.160 | 164.2 | 22.0 | 3.25 | | | | | 4.8 | | | | |
| Umpire | | | | | | | | | | | | | |
| Settlement | 2.160 | 164.2 | 22.0 | 3.25 | | | | | 4.8 | | | | |

| Car Number | Weight | VALUES PER TON | | | DEDUCTIONS PER TON | | |
|---|---|---|---|---|---|---|---|
| | | Gold 91.1371% | @$35-1/4% | 68.73 | Base for 20% Dry Lead | 8.00 | |
| Truck | 30670 | Silver 95% | @ .90 | 140.39 | Over " " | .05- | |
| | | Lead Less 1.5 | 90% @15.0-2.0 | 47.97 | | | |
| | | Copper, Less 1.0 | @35.575-6.0 | 13.31 | | | |
| | | Total Au. & Ag. | | 270.40 | | | 7.95 |
| | | | | | Insoluble | % @ | |
| | | | | | Zinc | % @ | |
| | | | | | Arsenic | % @ | |
| | | | | | Antimony | % @ | |
| | | | | | Bismuth | % @ | |
| Weight of Lot | | | | | Debit | | |
| Weight of Sacks | | | | | Iron | Lbs @ | |
| Wet Weight | | | | | | | |
| Less Moisture 10.0% | 3067 | Less Total Deduction | | 7.95 | Total Deductions | | |
| Dry Weight | 27603 | Pounds | @ | 262.45 | Per Ton | | $ 3,622.20 |

| | | |
|---|---|---|
| Freight Per Wet Ton @ | | $ |
| Hauling Per Wet Ton @4.00 Mazzolini Trucking Co. & 3% tax (1.84) | $ 63.18 | |
| Royalty *10% Robert D. Corette, Agent Butte, Montana | $ 283.71 | |
| 3%Fed. Bullion Trnptn. tax | 2.08 | |
| | | $ |
| Date of B/L | | |
| Date of Arrival 4-12-55 Advances 4-19-55 | $ 2,250.00 | |
| Checked Umpire | $ | |
| Corrected Sampling When Less Than 10 Tons | $ | |
| TOTAL | $ 2,598.97 | $ 2,598.97 |
| | | NET PROCEEDS $ 1,023.23 |

Rates except [illegible] are subject to change without notice. *Milling Charges $719.84

A minimum charge of $[illegible] made on all lots under 10 dry tons.

36M-1-55-11457

FORM NO. A-31

# AMERICAN SMELTING AND REFINING CO.

## EAST HELENA PLANT

East Helena, Mont., April 5, 19 55

Bought of Mitchell Mining Company Mine Marget Ann Our Lot No. 470

Class Conc. Shipping Point Rocker, Montana Mine Lot No. 5

Quotations of Wks.Avg. Silver .90 Lead 15.0 ~~XXXXXX~~ Cathode Copper 32.575

| ASSAYS | GOLD Oz. per ton | SILVER Oz. per ton | Wet Lead Per Cent | COPPER Per Cent | INSOL Per Cent | IRON Per Cent | Manganese Per Cent | Sulphur Per Cent | ZINC Per Cent | ARSENIC Per Cent | Antimony Per Cent | Bismuth Per Cent | LIME Per Cent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A. S. & R. Co. | 3.950 | 292.8 | 20.6 | 3.40 | | | | | 5.0 | | | | |
| McCarthy | 3.94 | 295.7 | 21.85 | 3.65 | | | | | 5.35 | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Umpire R&Simpson | | | 20.92 | 3.54 | | | | | | | | | |
| Settlement | 3.945 | 294.25 | 20.92 | 3.54 | | | | | 5.175 | | | | |

| Car Number | Weight | VALUES PER TON | | | | DEDUCTIONS PER TON | | |
|---|---|---|---|---|---|---|---|---|
| | | Gold 92.5693% | @ $35-1/4% | 127.50 | | Base for 20 % Dry Lead | 8.00 | |
| Truck | 24060 | Silver 95% | @ .90 | 251.58 | | | | |
| | | Lead Less 1.5 90% | @ 15.0-2.0 | 45.44 | | | | |
| | | Copper, Less 1.0 | @ 32.575-6.0 | 13.50 | | | | |
| | | Total Au. & Ag. | | 438.02 | | | | 8.00 |
| | | | | | | Insoluble % @ | | |
| | | | | | | Zinc % @ | | |
| | | | | | | Arsenic % @ | | |
| | | | | | | Antimony % @ | | |
| | | | | | | Bismuth % @ | | |
| Weight of Lot | | | | | | Debit | | |
| Weight of Sacks | | | | | | Iron Lbs. @ | | |
| Wet Weight | | | | | | | | |
| Less Moisture 10.5 % | 2526 | Less Total Deduction | | 8.00 | | Total Deductions | | 8.00 |
| Dry Weight | 21534 | Pounds | @ | 430.02 | | Per Ton | | $ 4,630.03 |

| | | |
|---|---|---|
| Freight Per Wet Ton @ | $ | |
| Hauling Per Wet Ton @ 4.00 Massolini Trucking Co., & 3% tax(1.44) | $ 49.56 | |
| Royalty *10% Robert D. Corette, Agent Butte, Montana | $ 395.39 | |
| 3% Fed. Bullion trnptn. tax | $ 1.57 | |
| Advances 3-15-55 | $ 1,900.00 | |
| Umpire | $ 5.00 | |
| Sampling When Less Than 10 Tons | $ | |
| TOTAL | $ 2,351.52 | $ 2,351.52 |
| NET PROCEEDS | | $ 2,278.51 |

Date of B/L

Date of Arrival 3-12-55

Checked JMc

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

*Milling Charge $619.96

3GM-1-55-11437

FORM NO. A-31

# AMERICAN SMELTING AND REFINING CO.

## EAST HELENA PLANT

RECEIVED JUN 13 1955

East Helena, Mont., March 31, 19 55

Bought of Mitchell Mining Company Mine Marget Ann Our Lot No. 375

Class Conc. Shipping Point Rocker, Montana Mine Lot No. 4

Quotations of Wks.Avg. Silver .90 Lead 15.0 ~~XXXXXXX~~ Cathode Copper 32.575

| ASSAYS | GOLD Oz. per ton | SILVER Oz. per ton | Wet Lead Per Cent | COPPER Per Cent | INSOL Per Cent | IRON Per Cent | Manganese Per Cent | Sulphur Per Cent | ZINC Per Cent | ARSENIC Per Cent | Antimony Per Cent | Bismuth Per Cent | LIME Per Cent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A. S. & R. Co. | 1.480 | 119.2 | 22.4 | 3.05 | | | | | 4.5 | | | | |
| McCarthy | 1.49 | 121.0 | 22.9 | 3.15 | | | | | 4.95 | | | | |
| Umpire P.Mack | | 120.515 | | | | | | | | | | | |
| Settlement | 1.485 | 120.515 | 22.65 | 3.10 | | | | | 4.725 | | | | |

| Car Number | Weight | VALUES PER TON | | | DEDUCTIONS PER TON | | |
|---|---|---|---|---|---|---|---|
| | | Gold 91.1371% | @ $35-1/4% | 47.25 | Base for 20 % % Dry Lead | 8.00 | |
| Truck | 25220 | Silver 95% | @ .90 | 103.04 | Over " " | .12- | |
| | | Lead Less 1.5 90% | @ 15.0-2.0 | 49.49 | | | |
| | | Copper, Less 1.0 | @ 32.575-6.0 | 11.16 | | | |
| | | Total Au. & Ag. | | 210.94 | | | 7.88 |
| | | | | | Insoluble % @ | | |
| | | | | | Zinc % @ | | |
| | | | | | Arsenic % @ | | |
| | | | | | Antimony % @ | | |
| Weight of Lot | | | | | Bismuth % @ | | |
| Weight of Sacks | | | | | Debit | | |
| Wet Weight | | | | | Iron Lbs. @ | | |
| Less Moisture 8.8 % | 2219 | Less Total Deduction | | 7.88 | Total Deductions | | 7.88 |
| Dry Weight | 23001 | Pounds | @ | 203.06 | Per Ton | | $ 2,335.29 |

| | | |
|---|---|---|
| | Freight Per Wet Ton @ | $ |
| | Hauling Per Wet Ton @ 4.00 Mazzolini Trucking Co. & 3% tax(1.51) | $ 51.95 |
| | Royalty *10% Robert D. Corette, Agent Butte, Montana | $ 173.63 |
| Date of B/L | 3% Fed. Bullion trnptn. tax | $ 1.77 |
| Date of Arrival 2-24-55 | Advances 3-2-55 | $ 1,400.00 |
| Checked JMc | Umpire | $ |
| Correct | Sampling When Less Than 10 Tons | $ |

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

*Milling Charge $545.30

TOTAL $ 1,627.35 $ 1,627.35

NET PROCEEDS 707.94

3-M-1-55-11457

FORM NO. A-31

# AMERICAN SMELTING AND REFINING CO.

## EAST HELENA PLANT

East Helena, Mont., March 21, 1955

Bought of Mitchell Mining Company Mine Marget Ann Our Lot No. 322

Class Conc. Shipping Point Rocker, Montana Mine Lot No. 3

Quotations of Wks.Avg. Silver .90 Lead 15.0 ~~XXXXXXX~~ Cathode Copper 32.575

| ASSAYS | GOLD Oz. per ton | SILVER Oz. per ton | Wet Lead Per Cent | COPPER Per Cent | INSOL Per Cent | IRON Per Cent | Manganese Per Cent | Sulphur Per Cent | ZINC Per Cent | ARSENIC Per Cent | Antimony Per Cent | Bismuth Per Cent | LIME Per Cent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A. S. & R. Co. | 1.280 | 96.8 | 13.8 | 2.40 | | | | | 4.3 | | | | |
| McCarthy | 1.31 | 98.3 | 14.8 | 2.40 | | | | | 2.8 | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Umpire Dickinson | | 96.005 | 14.0 | | | | | | | | | | |
| Settlement | 1.295 | 96.8 | 14.0 | 2.40 | | | | | 3.55 | | | | |

| Car Number | Weight | VALUES PER TON | | | DEDUCTIONS PER TON | | |
|---|---|---|---|---|---|---|---|
| | | Gold 91.1371% | @ $35-1/4% | 41.20 | Base or Charge. | Lead 8.00 | |
| Truck | 29880 | Silver 95% | @ .90 | 82.76 | | | |
| | | Lead Less 1.5 90% | @ 15.0-2.0 | 29.25 | | | |
| | | Copper, Less 1.0 | @ 32.575-6.0 | 7.44 | | | |
| | | Total Au. & Ag. | | 160.65 | | | |
| | | | | | | | 8.00 |
| | | | | | Insoluble | % @ | |
| | | | | | Zinc | % @ | |
| | | | | | Arsenic | % @ | |
| | | | | | Antimony | % @ | |
| Weight of Lot | | | | | Bismuth | % @ | |
| Weight of Sacks | | | | | Debit | | |
| Wet Weight | | | | | Iron | Lbs. @ | |
| Less Moisture 10.0 % | 2988 | Less Total Deduction | | 8.00 | Total Deductions | | |
| Dry Weight | 26892 | Pounds | @ | 152.65 | Per Ton | | $ 2,052.53 |

| | | |
|---|---|---|
| | Freight Per Wet Ton @ | $ |
| | Hauling Per Wet Ton @4.00 Mazzolini Trucking Co. & 3% tax (1.79) | $ 61.55 |
| | Royalty *10% Robert D. Corette, Agent Butte, Montana | $ 136.59 |
| Date of B/L | 3% Fed. Bullion trnptn. tax | $ 1.24 |
| Date of Arrival 2-16-55 | Advances 2-18-55 | $ 1,000.00 |
| Checked JMc | Umpire | $ |
| Correct | Sampling When Less Than 10 Tons | $ 10.00 |

Rates except on contract, subject to change without notice *Milling Charge$613.80 TOTAL $ 1,209.38 $ 1,209.38

A minimum charge of $5.00 made on all lots under 10 dry tons NET PROCEEDS $ 843.15

FORM NO. A-31

# AMERICAN SMELTING AND REFINING CO.

## EAST HELENA PLANT

East Helena, Mont., March 14, 19 55

Bought of Mitchell Mining Company Mine Marget Ann Our Lot No. 267

Class Conc. Shipping Point Rocker, Montana Mine Lot No. 2

Quotations of Wks.Avg. Silver 190 Lead 15.0 ~~XXXXXX~~ Cathode Copper 32.2

| ASSAYS | GOLD Oz. per ton | SILVER Oz. per ton | Wet Lead Per Cent | COPPER Per Cent | INSOL Per Cent | IRON Per Cent | Manganese Per Cent | Sulphur Per Cent | ZINC Per Cent | ARSENIC Per Cent | Antimony Per Cent | Bismuth Per Cent | LIME Per Cent |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A. S. & R. Co. | 1.54 | 115.8 | 22.9 | 3.60 | | | | | 4.5 | | | | |
| McCarthy | 1.56 | 116.3 | 23.6 | 3.65 | | | | | 3.7 | | | | |
| | | | | | | | | | | | | | |
| | | | | Sent to D. & Nichols for Lead Umpire. | | | | | | | | | |
| Umpire D&Nickols | | | 24.2 | | | | | | | | | | |
| Settlement | 1.55 | 116.05 | 23.6 | 3.625 | | | | | 4.1 | | | | |

| Car Number | Weight | VALUES PER TON | | | DEDUCTIONS PER TON | | |
|---|---|---|---|---|---|---|---|
| | | Gold 91.1371% | @ 35-1/4% | 49.32 | Base for 20 % Dry Lead | 8.00 | |
| Truck | 26000 | Silver 95% | @ .90 | 99.22 | Over " " | .21- | |
| | | Lead Less 1.5 90% | @ 15.0-2.0 | 51.71 | | | |
| | | Copper, Less 1.0 | @ 32.2-6.0 | 13.76 | | | |
| | | Total Au. & Ag. | | 214.01 | | | 7.79 |
| | | | | | Insoluble % @ | | |
| | | | | | Zinc % @ | | |
| | | | | | Arsenic % @ | | |
| | | | | | Antimony % @ | | |
| Weight of Lot | | | | | Bismuth % @ | | |
| Weight of Sacks | | | | | Debit | | |
| Wet Weight | | | | | Iron Lbs. @ | | |
| Less Moisture 10.4 % | 2704 | Less Total Deduction | | 7.79 | Total Deductions | | 7.79 |
| Dry Weight | 23296 | Pounds | @ | 206.22 | Per Ton | | $ 2,402.05 |

| | | |
|---|---|---|
| | Freight Per Wet Ton @ | $ |
| | Hauling Per Wet Ton @ 4.00 Mazzolini Trucking Co.& 3% Tax (1.56) | $ 53.56 |
| | Royalty *10% Robert D.Corette, Agent, Butte, Mont. | $ 165.02 |
| Date of B/L | 3% Fed. Bullion trnptn. tax | $ 1.91 |
| Date of Arrival 2-9-55 | Advances 2-14-55 | $ 1,350.00 |
| Checked JMc | Umpire | $ |
| Correct | Sampling When Less Than 10 Tons | $ |

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

*Milling Charges 696.42

TOTAL $ 1,570.49 $ 1,570.49

NET PROCEEDS $ 831.56

36M 1-55-11457

F. 600--2-54--1M--McKEE

# ANACONDA COPPER MINING CO., WASHOE SAMPLER

RECEIVED JUN 13 1955

RECEIVED FROM Mitchell Mining Company — BUTTE, MONTANA

ADDRESS P. O. Box 301, Mt. Vernon, Washington — April 11, 1955

MINE Margaret Ann Gtc. LOT 781-2 SAMPLER LOT 4243

| ASSAYS | OZS. SILVER | OZS. GOLD | PER CENT ZINC | PER CENT LEAD | PER CENT COPPER | PER CENT INSOLUBLE | PER CENT IRON | TREATMENT CHARGE | PRICE PER TON | VALUE | DRAFT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Sampler | 43.10 | .265 | 48.0 | 2.2 | | | 8.3 | $ | $ | $ | |
| Shipper | | | | | | | | | | | |
| Umpire | | | | | | | | | | | |
| Settlement | | | | | | | | 40.59 | 85.92 | 2796.09 | |
| BAP Wy. Rd Freight | | | | | | | | | | 30.65 | |
| | | | | | | | | | | 2765.44 | |
| Dan Mazzolini, Haul | | | | | | | | | | 35.00 | 2150 |
| | | | | | | | | | | 2730.44 | |
| Milling Charge | | | | | | | | | | 989.50 | 2148 |
| | | | | | | | | | | 1740.94 | |
| Hotals Bank & Trust Co. a/c R.D. Sorette, agent Margaret Ann Mine, Royalty 10% | | | | | | | | | | 174.09 | 2149 |
| (Labor $17.00, Labor January, 1955 - $17.58) | | | | | | | | | | 1566.85 | 2148 |

## PAYMENT FOR METALS

Zinc— 80 % @ 11.5¢

Silver— 80 % @ 90¢

Gold— 80 % @ $33.70

Lead— % in excess of % @ less 2c

Copper—

## TREATMENT CHARGES

Base— CR. $40.00

Zinc Price Increase 80.50

Insoluble Labor Var. 0.69

Iron

Lead 0.40

| SHIPPER'S LOT NO. | CAR NUMBER | WEIGHTS LBS. GROSS | WEIGHTS % MOISTURE | WEIGHTS LBS. DRY | DATE OF receipt | DATE OF QUOTATIONS |
|---|---|---|---|---|---|---|
| 1 | BAP 2479 | 76160 | 14.54 | 65086 | 3/28/55 | E. & M. J. Average for Week Ending 3/23/55 |
| Extensions and Footings Correct | TOTAL | | | | RAILROAD VALUE | |

Freight Wt. 80000

Anaconda Copper Mining Co., Washoe Sampler

Superintendent.

FM M3 20m 2-53 Mine No.

# SULLIVAN MINING COMPANY
## Electrolytic Zinc Plant

P. O. Address: KELLOGG, IDAHO
Freight Address: SILVER KING, IDAHO

RECEIVED JUN 13 1955

SETTLEMENT

In Account With

Mitchell Mining Company

Mine: Mitchell | Mine Lot: | Plant Lot: MZ-2

Location: Butte, Montana | Shipping Point: ZP Texas Track | Class: Flotation

Date of Arrival: 12-29-54 | Date of Sampling: 12-29-54 | Date of Settlement: 2-7-55

| Car Initial | Car Number | Lbs. Wet Weight | $H_2O$ |
|---|---|---|---|
| UP | 30728 | 20980 | 12.8 |

| | |
|---|---|
| Gross Weight | 20980 |
| Moisture Pounds | 2685 |
| Dry Weight | 18295 |
| Dry Tons | 9.1475 |

| ASSAYS | | Quotations 12-29-54 |
|---|---|---|
| Zinc 50.10 | % | 11.50 |
| Lead 2.50 | % | 15.00 |
| Silver 307.20 | Oz. per ton | .90 |
| Gold .520 | Oz. per ton | 34.2425 |
| Insol. 3.40 | % | |
| Iron 6.00 | % | |

| TREATMENT | Per Dry Ton $ |
|---|---|
| Base | 16 00 |
| Zinc from 4-9 ¢ @ $2.50 | |
| Zinc over 9 ¢ @ $2.00 | 17 50 |
| Zinc under % @ $ | |
| Lead under 3 % @ $1.00 | 50 |
| Iron 6.00 % @ $0.70 | 1 20 |
| Net Treatment Per Ton | 35 20 |

| CONTENTS | | | VALUE $ | Per Ton |
|---|---|---|---|---|
| Zinc 9166 | Lbs. @ | 11.50 | 2054 | 09 |
| Lead 457 | Lbs. @ | 15.00 | 68 | 55 |
| Silver 979.70 | Oz. @ | .90 | 881 | 73 |
| Gold 4.757 | Oz. @ | 34.2425 | 162 | 89 |
| GROSS VALUE | | | 2167 | 26 |

| DEDUCTIONS | $ |
|---|---|
| Zinc 20% | 210 82 |
| Lead | 68 55 |
| Lead | |
| Lead | |
| Silver 20% | 176 35 |
| Gold 20% | 32 58 |
| Metal Deductions | 488 30 |
| Treatment | 327 46 |

| | |
|---|---|
| | 815 76 |
| NET VALUE | 1351 48 |

| FREIGHT AND MISCELLANEOUS | $ |
|---|---|
| Freight Value $ Per Wet Ton | |
| Freight 10.49 Tons @ $ | |
| Switching | 4 81 |
| Federal Tax | 14 |
| | 4 95 |
| BALANCE DUE | 1346 53 |

File Copy
Surname

J. Alt
Fraenzel
Hedges
Kilsgaard
Selfridge
Fjerman

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

JUN 13 1955

Mr. E. B. Olmsted, President
Mitchell Mining Company, Inc.
Mount Vernon, Washington

Re: Docket No. DMEA-3603 (Lead-Zinc-Manganese-Copper)
Mitchell Mining Company, Inc.
Marget Ann Property
Silver Bow County, Montana

Dear Mr. Olmsted:

Your application for aid for an exploration project and other reports available to us in Washington concerning your application have been reviewed.

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

Careful study of all our information, although noting a small amount of marginal lead-zinc ore on your lease, indicates to us that the probability of disclosing minable ore reserves by your proposed program is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Program and for bringing your property to our attention.

Sincerely yours,
D. O. Mittendorf
Administrator

JWAlt/er 6/8/55
Copy to: Docket
Region I (2) N.W. Dist
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

R.G.S.

UNITED STATES
DEPARTMENT OF THE INTERIOR 500
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

June 9, 1955

Memorandum

To: The Administrator

From: Chief, Base Metals Division

Subject: Denial of Application, Docket No. DMEA-3603, Mitchell Mining Company, Inc., Marget Ann Property, Silver Bow County, Montana, (Lead-Zinc-Manganese-Copper).

The cited application, dated October 20, 1954, was received by this office on December 10, 1954. It was forwarded by the Executive Officer of Region I, Northwest District.

The Applicant proposed to: Rehabilitate the air shaft from surface to the 200' level for ventilation and a second shaft, build a headframe of sufficient height and capacity, to explore the North, South and Middle veins on the 550 level. This would entail 370 feet of crosscutting to cut the veins, 800 feet of drifting on each of the South and Middle vein, 300 feet of drifting on the North vein, and 172 feet of raising on each of the veins. To diamond drill 300 feet. On completion of this program the Applicant proposed to sink the shaft an additional 180 feet, but no funds are requested for any work off the bottom of the shaft. Total estimated cost of proposed work is $230,758.

The Field Team examined this property on November 18, 1954, and on January 29, 1955. The Field Team report, dated May 4, 1955, was received by this office on May 24.

The Applicant's present lease and option agreement on the property expires in February 1956. The Applicant was advised by the Field Team at the time the application was presented that it would be necessary for him to get an extension of the lease to cover the exploration period and also, if possible, to cover the repayment period. The Applicant to the knowledge of the Field Team has not been able to get the lease extended.

The Applicant reports that the owners of the claim (Marget Ann claim) are unwilling to sign an Owner's Consent to Lien.

The Applicant has a lease for only one claim, the Marget Ann claim.

The Field Team states:

"The Marget Ann property is considered a wothwhile silver-gold prospect from which some by-products lead and zinc may be recovered. Exploration on the 550 level, as proposed by the Applicant, will undoubtedly find additional ore. The lead-zinc content of this ore can at best be expected to carry only a few tenths of a percent more lead-zinc than ore previously mined or around 3.0 percent combined. This, however, is not considered sufficient to justify DMEA participation in exploration.

"A gradual increase in the lead-zinc content of the veins has been noted from the 200 to the 550 levels. For this reason exploration at a deeper level for lead-zinc may be justified. On the basis of present available information any level picked would be arbitrary. The authors would suggest at least the 1000 level. Admittedly, the lead-zinc content of the veins on this level may not be a great deal higher than that on the 550 level, but it is believed that exploration to test the possibilites at this depth would be warranted".

Exploration for lead-and zinc at the level proposed by the Applicant is not considered warranted.

The Field Team states:

"Should the applicant succeed in arranging legal matters to the satisfaction of DMEA and obtain an interest in claims surrounding the Marget Ann claim, it is recommended that serious consideration be given any future application for deep level lead-zinc exploration on the property."

We concur with the recommendations of the Field Team and the Commodity members of the USBM and the USGS that this application be denied.

W. R. Griswold

W. R. Griswold

File Copy
Surname
J. [illegible]

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DEPARTMENT OF THE INTERIOR 500
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.

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We concur with the recommendations of the Field Team and the Commodity members of the USBM and the USGS that this application be denied.

W. R. Griswold

JWAlt/er
Copy to: Docket
Base Metals
Chron.

W. R. Griswold

IN REPLY REFER TO:

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

RECEIVED
JUN - 6 1955

June 3, 1955

Re: DMEA-3603
Mitchell Mining Co., Inc.
Marget Ann Mine
Silver Bow Co., Mont.
$230,758 - Lead-Zinc-Manganese-Copper

Memorandum

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

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

Subject: Review of Field Team report recommending denial

Questionable intent can be read into the application and the examiners and Field Team appear to have found the right answer.

I concur with the recommendation of denial.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

RECEIVED
JUN - 6 1955

June 3, 1955

Re: DMEA-3603
Mitchell Mining Co., Inc.
Marget Ann Mine
Silver Bow Co., Mont.
$230,758 - Lead-Zinc-Manganese-Copper

Memorandum

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N. E. Nelson

N. E. Nelson

NENelson:hlm
G-6/3/55

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

DEPARTMENT OF THE INTERIOR
Bureau of Mines Administration
RECEIVED
MAY 26 1955

May 26, 1955 Att

Re: DMEA-3603
Mitchell Mining Co., Inc.
Marget Ann property
Silver Bow County, Mont.

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, Branch of Base Metals

Subject: Recommendation for denial of DMEA assistance

Field team geologists, Quinlan and Vhay have prepared a report that is characterized by an intelligent, careful appraisal of the known geologic and business facts.

They recognize and advise that though the Marget Ann property has considerable potential value, the short term of the lease, the unwillingness of the owners to sign a subordination agreement, the financial weakness of the Company, the relatively small percentage of the ore value in strategic metals, and the limited area controlled by the Mitchell Mining Company in relation to the extensive exploration proposed all combined add up to an overwhelming cause for denial.

I recommend denial.

O. M. Bishop

O. M. Bishop

Copy to: Div. of Minerals
Mr. Kiilsgaard, Rm. 5224
O. M. Bishop
Files

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

May 26, 1955

Re: DMEA-3603
Mitchell Mining Co., Inc.
Marget Ann property
Silver Bow County, Mont.

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, Branch of Base Metals

Subject: Recommendation for denial of DMEA assistance

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I recommend denial.

O. M. Bishop

Copy to: Div. of Minerals
Mr. Kiilsgaard, Rm. 5224
O. M. Bishop
Files

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

May 13, 1955

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-3603 (lead-zinc manganese-copper)
Mitchell Mining Company, Inc.
Marget Ann property
Silver Bow County, Montana

Dear Mr. Selfridge:

Enclosed is a memorandum from J. J. Quinlan and J. S. Vhay, geologists, Geological Survey, recommending denial of the application for DMEA assistance to explore the Marget Ann property of the Mitchell Mining Company in Silver Bow County, Montana. The Marget Ann mine does have some attraction as a mining venture for further exploration or development; however, from the viewpoint of DMEA there are a number of undesirable features. These are:

(1) Although there are locally places where the base-metal content is higher, all available information suggests that at present levels, including the deepest existing level, the ore averages only about 3 percent combined lead and zinc. The chief value of the ore is in its gold and silver content. Manganese content, in general, is negligible although the ore does carry rhodochrosite and probably some rhodonite.

(2) Although there is geologic reason to anticipate an increase in base-metal content with increasing depth, the bottom level does not appear to be significantly higher in base-metal content than do the upper levels nor is any significant change expected within the next several hundred feet.

(3) The Mitchell Mining Company controls only one single claim which is insufficient ground to justify the expense of deep exploration which would be required to search for base-metal ores; furthermore, even on existing levels the workings are approaching or in some cases going beyond the sidelines of the property.

Reviewed by
DMEA OPERATING COMMITTEE
5-21-55
(date)

(4) The applicant has only a short-time lease which expires in February 1956 and can give no assurance that this lease will be renewed.

(5) The Mitchell Mining Company cannot obtain Owner's Consent to Lien.

In view of the above difficulties, we cannot recommend approval of the company's application. Should the company obtain a long-term lease to the ground or purchase the claims and acquire sufficient adjoining property, a well-considered program of deep-level exploration would probably be worth consideration.

By Field Team, Region I, NW District

A. E. Weissenborn, Exec. Officer
(U. S. Geological Survey)

Wing G. Agnew, Member
(U. S. Bureau of Mines)

Enclosures(4)
Distribution:
USBM(2)
USGS(SRO)
Quinlan
Vhay

DMEA

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 19 1955

May 4, 1955

MEMORANDUM

To: DMEA Field Team, Region I, Northwest District

From: J. J. Quinlan and J. S. Vhay, Geologists, U. S. Geological Survey

Subject: Docket No. DMEA-3603 (lead-zinc-manganese-copper), Field Examination, Mitchell Mining Company, Inc., Marget Ann Property, Silver Bow County, Montana.

## Introduction

The Marget Ann mine was examined by the authors on November 18, 19, and 20, 1954, with reference to the subject application for exploration assistance. Recent work on the 550 level of the mine was examined by J. J. Quinlan and D. F. Kellum of the U. S. Geological Survey on the afternoon of January 29, 1955.

Mr. Ralph Seideman, mine manager, accompanied and assisted the examiners on November 18, 1954, and January 29, 1955.

## Recommendation

It is recommended that the Mitchell Mining Company's present application for DMEA assistance to explore the Marget Ann claim be denied for the following reasons:

(1) Any worthwhile program to explore the lead-zinc possibilities of the property cannot be completed before the applicant's lease expires in February 1956.

(2) The owners are unwilling to sign an "Owner's Consent to Lien" agreement.

(3) Exploration for lead and zinc at the level proposed by the applicant is not considered warranted.

Should the applicant succeed in arranging legal matters to the satisfaction of DMEA and obtain an interest in claims surrounding the Marget Ann claim, it is recommended that serious consideration be given any future application for deep level lead-zinc exploration on the property.



Reviewed by
DMEA OPERATING COMMITTEE
5-21-55
(date)

## Applicant

The applicant is the Mitchell Mining Company, Inc., of Mount Vernon, Washington. Officers of the company are E. B. Olmsted, president, L. M. Peck, vice president, Walter Hartwick, secretary, and A. C. Pelland, treasurer. These officials are residents of Mount Vernon, Washington. Manager for the company is R. J. Seideman of Butte, Montana. Mr. Seideman is a graduate geological engineer with considerable operating experience. He is fully qualified to direct and supervise exploration and development of the property.

Discussion with Mr. Seideman indicates that the officers of the company have little appreciation of mining practice and in the past this has hampered exploration and development work necessary for efficient operation. The impression was also gained that while some of the officers of the company are wealthy men the company itself is financially weak.

## Location

The Marget Ann property is a few thousand feet north of the main producing area of the Butte mining district, Silver Bow County, Montana. It lies within but near the northern limits of the community of Walkerville, a small suburb in the northern part of Butte.

Located as it is within the city limits of Walkerville, the property is very accessible. It is about 1.8 miles from downtown Butte to the mine and only 0.3 mile from the center of Walkerville to the mine.

## Property and Ownership

The property consists of one patented quartz lode mining claim, the Marget Ann Lode, Survey No. 774, Lot No. 142, sec. 1, T. 3 N., R. 8 W., M.P.M., Silver Bow County, Montana. The Marget Ann Lode is owned by 12 individuals: Kathleen C. O'Donnell, Mary D. Corette, John K. Claxton, Wanda Claxton, and John Callahan, all of Butte, Montana; Madelaine Callahan Healy, Joseph Callahan, and Martha Cooper Callahan, all of Arlington, Virginia; Cornelius Callahan and Rose C. Callahan, Coronada, California; Marian C. Anderson, Minneapolis, Minnesota; and Catherine C. Pettibone, Columbia Falls, Montana.

The owners of the property have granted a lease and option on the property to Frank Benich of Butte, Montana. Mr. Benich, in turn, has assigned the lease and option on the property to the Mitchell Mining Company. Copies of the various documents by which the applicant claims rights, title, and interest in the Marget Ann claim were filed with the application. If a contract were to be granted, a careful study by the Legal Division should be made to see that they are in order.

The present lease and option agreement under which the applicant is operating the Marget Ann property expires February 1, 1956. The applicant estimates that it will take 18 months to complete the proposed project; therefore, not enough time is provided for under the terms of the present lease to complete the work proposed. Mr. Seideman reported at the time the property was examined in January that the company was trying to obtain an extension of the present lease and option agreement. However, we have not been informed by the company that it was successful in this undertaking and assume that as yet it has not been able to obtain one. If the applicant cannot obtain an extension of the present lease, it expects to be able to keep control of the property by exercising its option to purchase it before the present lease and option agreement expires.

The owners of the property are unwilling to sign an Owner's Consent to Lien agreement. Considering the apparent weak financial position of the company, it appears that it may not be prudent to waive the applicant's obligation to obtain an Owner's Consent to Lien and accept a guarantee in lieu of such an agreement. If, however, the applicant exercised his option to purchase the claim, no Consent to Lien agreement would be needed.

The fact that the applicant has control over only one claim is another circumstance that would guide the size and extent of any program that the Government could consider. This matter was discussed in January with Mr. Seideman along with the possibility of some deep-level exploration, and he was of the opinion that additional claims might be obtainable.

There is a 100-ton per day flotation mill on the property. This mill was built by the Contract Milling Company of Butte, Montana, as a custom mill but with the thought that it would treat mostly Marget Ann ore. Although the Contract Milling Company is a separate organization from the Mitchell Mining Company, the two companies are reported to have an interlocking directorship. There was recently an unconfirmed announcement in the local newspapers that the Mitchell Mining Company had purchased the interest of Contract Milling Company in the mill.

## History and Past Production

Little is known of the early history of the Marget Ann claim. When the mine was reopened by the Mitchell Mining Company in the fall of 1950, the mine had been explored and developed to the 200 level. Since that time the Mitchell Mining Company has rehabilitated the upper part of the Marget Ann shaft and most of the 200 level, sunk the shaft to a depth of 570 feet, and carried on exploration and development on the 200, 300, 400, and 550 levels. Exploration and development of the 550 level, however, has just started, and it is for this program that the applicant requests DMEA assistance.

At the time application was made (October 1954) the applicant reported past production from the property at 16,000 tons of ore averaging 25.0 ounces of silver per ton, 0.25 ounce of gold per ton, 2.0 percent zinc, 1.0 percent lead, 0.2 percent copper, and 8.0 percent manganese. The base- and precious-metal content of the ore, as reported, is not based on a weighted average of shipments but is only an estimate made by the applicant as to the average grade of all shipments. Inspection of the smelter settlement sheets indicates that this estimate is reasonably accurate for the gold and silver, but it may be a few tenths of a percent high for the lead and zinc. The manganese content of the ore, as reported, is based on only a few samples, and these samples are far too few to use in assigning a grade to all the ore mined.

Prior to the time the custom mill was installed on the property (July 1954), most of the ore was shipped as crude ore to the East Helena smelter. When the mill was first placed in operation, only a bulk sulfide concentrate was made which was also shipped to the East Helena smelter. The applicant was paid by the smelter for only the gold and silver contained in the crude ore and bulk concentrate. In November 1954 a second circuit was added to the mill so as to make both a lead concentrate and a zinc concentrate.

## Workings

The Marget Ann property is developed through a two-compartment shaft 570 feet deep. Principal working levels from the shaft are the 200, 300, 400, and 550 levels which are shown on the maps accompanying this memorandum. Drifting and crosscutting on these four levels total about 4,000 feet. About 1,250 feet of raises have also been driven from these levels to explore the veins.

## Geology

The geology of the Butte district has been described by many authors, but the most noteworthy publications on the district are:

Weed, W. H., Geology and Ore Deposits of the Butte District, Montana: U. S. Geol. Survey Prof. Paper 74, 1912.

Sales, R. H., Ore Deposits at Butte, Montana: Trans. AIME, vol. 46, pp. 3-109, 1914.

Sales, R. H., Meyer, C., Wall Rock Alteration at Butte, Montana: Trans. AIME, vol. 178, pp. 9-33, 1948.

The reader is referred to these publications for a detailed account of the geology of the district.

The veins on the Marget Ann property are enclosed within quartz monzonite, the principal host rock of the Butte district. The quartz monzonite at Butte, locally called the "Butte granite," is a part of the Boulder batholith which was emplaced in late Cretaceous or early Tertiary time. The quartz monzonite adjacent to the veins on the Marget Ann property has been highly altered. This alteration is typical of the alteration recognized by Sales and Meyer at Butte, i.e., an outer argillized zone and a sericitic zone immediately adjacent to the vein.

Four major veins have been recognized in the Marget Ann workings, namely, Northeast, North, Middle, and South veins. With the exception of the Northeast vein, the veins are essentially east-striking structures and are probably members of the Anaconda vein system, the most productive system in the district. These veins are shown on the 100-scale maps accompanying the application (copies of which are attached to this memorandum) and also on the 40-scale geologic maps of the 200, 300, and 400 levels which were prepared from 20-scale maps of the property the company had on file at the time of the examination. The reader is referred to these maps for the following discussion and also to the 40-scale geologic map of the 550 level which was prepared by the field examiners.

The Northeast vein has been explored only on the 200 level. The main workings along it are now inaccessible, and the following description has been prepared by interpreting the geologic maps. The Northeast vein has been recognized only north of the North vein. It follows a strong N. 45°-60° E.-striking, 60° NW.-dipping shear zone. The vein within the shear zone ranges in width from about a foot to several feet. The position of this vein to claim boundaries (see 100-scale map of 200 level) would indicate that the applicant would own only a small part of the vein under the apex law.

Both the North and Middle vein strike N. 80°-90° E. and dip 60°-75° N. Structurally the two veins are quite similar; both follow strong sheared and alteration zones. The veins within the sheared and altered zones average about 4 feet wide. In part, each vein pinches and swells in such a manner as to suggest postmineral adjustment along a system of interlacing faults within the vein zone that cause doubling and thinning of the vein along strike and dip. Quartz, rhodochrosite, a light-brown carbonate, argentite, and pyrite are the principal minerals that can be megascopically identified in both veins. Although rhodochrosite was positively identified, much of the pink manganese in the veins appeared to be an intimate mixture of rhodochrosite and fine-grained silica. The possibility also exists that some of the fine-grained material may be rhodonite. Locally, discontinuous sulfide bands, average width about 4 to 5 inches, occur on one or the other walls of the veins. The principal minerals identified in these bands were sphalerite,

galena, chalcopyrite, and pyrite. One difference between the two veins is that the ore values along the North vein are much more persistent than on the Middle vein; in fact, little stoping has been done on the Middle vein.

The South vein strikes N. 70°-80° E.; in the upper levels it dips 60°-75° N., but on the 550 level it steepens in dip to about 80°-85° N., and in places some strands of it even dip steeply to the south. The vein is exceptionally strong, and for the most part in the upper levels it is 10 to 15 feet wide. Present information indicates that besides steepening in dip between the 400 and 550 levels the vein also splits into several strands which on the 550 level are recognized over a width of about 60 feet. On the 550 level the main strand is about 10 feet wide, but it is essentially a barren quartz vein, as is the south strand of the vein which splits off the main strand near the shaft (see 40-scale map of 550 level). The most important strand of the South vein on the 550 level appears to be about 30 feet north or in the hanging wall of the main strand. At the time of the January 29, 1955, inspection about 160 feet of drifting had been completed on this strand of the vein. This drifting shows the strike of the strand to be about parallel to the main strand but its dip to be slightly steeper. It ranges in width from less than a foot to over 5 feet and follows a strong sheared and altered zone. The mineralogy of the north strand of the South vein is similar to that of the North and Middle veins. A strong sulfide band, ranging in width from 5 to 11 inches, follows the south wall of the vein for most of the distance it has been drifted along on the 550 level. This band on the 550 level constitutes the best lead-zinc showing in the mine. Four samples were taken across the vein on the level and are tabulated on the next page.

| Sample No. | Location | Remarks | Width (feet) | % Au | % Ag | % Pb | % Zn | % Cu | % Mn |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 550 level, 27' west of north crosscut | South wall sulfide band | 0.5 | 0.08 | 17.0 | 11.7 | 14.5 | 0.78 | 1.13 |
| 2 | do. | Vein, excluding sulfide band | 3.4 | 0.42 | 22.5 | <0.02 | 0.41 | 0.16 | 6.75 |
| | Weighted average--Samples No. 1 & 2 | | 3.9 | 0.38 | 21.8 | 1.5 | 2.2 | 0.24 | 6.03 |
| 3 | 550 level, 30' east of north crosscut | South wall sulfide band | 0.6 | 0.15 | 9.2 | 10.3 | 7.45 | 0.43 | 2.25 |
| 4 | do. | Vein, excluding sulfide band | 4.3 | 0.01 | 0.4 | 0.29 | 0.57 | 0.17 | 9.30 |
| | Weighted average--Samples No. 3 and 4 | | 4.9 | 0.03 | 1.5 | 1.5 | 1.41 | 0.20 | 8.40 |

The 100-scale maps and section accompanying the application show a large fault crossing the property. The fault, as shown on these maps, strikes N. 45° E. and dips 45° NW. Detailed information on this fault is rather obscure; the ground, where it is shown crossing the workings on the 100-scale maps, is now heavily timbered or caved. Detailed geologic maps of the mine, however, fail to show a fault as shown on the 100-scale maps or show it as a rather insignificant structure (see 40-scale maps of 200, 300, and 400 levels). Gross structural relations, a few observations, and the existence of heavy ground lends credence, however, to the presence of a large fault approximately as shown on the 100-scale maps. The direction of movement along the fault is open to some question. The applicant indicates a southwest movement on the fault of the northwest block relative to the southeast block. This indicated movement is reported to coincide with the movement on a fault structure known to exist southwest of the property which the applicant believes correlates with the cross fault on the Marget Ann claim. A diamond drill hole drilled northeast near the face of the 400-level east drift failed to find the faulted extension of the North vein in the northeast fault block. This hole, however, may not have been drilled far enough at a great enough angle from the fault to conclusively show whether or not the applicant is correct as to the direction of movement. It would be well to point out that there is also some evidence to suggest that movement may be opposite to that indicated by the applicant and that the North and Middle veins may represent faulted segments of the same vein. Evidence favoring this interpretation includes the fact that on individual levels only two veins have ever been identified on the same side of the fault, and the strong similarity in the North and Middle vein structures indicates that they may be the same structure. In any event another diamond drill hole drilled northeast near the face of the 400-level east drift would add much to a better understanding of this fault problem and could well solve it. This problem is not only important from the standpoint of the number of veins present and where to conduct exploration for them but also has a bearing as to the applicant's rights to certain veins under the apex law.

The Marget Ann property is in the peripheral zone of the district, and in the past its ores have been valued for their precious metal content. Although Butte has long been recognized as a classic example of mineral zoning, there is little published information or data in our files on the details of zoning in the northern part of the district. We, therefore, wrote W. S. March, Jr., associate director of the Montana Bureau of Mines and Geology, to see what information he might supply on zoning in the northern part of the district. A copy of our letter of November 30, 1954 to March and his reply dated December 15, 1954, is appended to this memorandum. March himself could supply little information, but he did contact Murl Gidel of the Anaconda Copper Mining Company in regards to it. To quote March:

"According to Murl, the only change in these mines [Alice and Lexington mines in northern part of Butte district but south of Marget Ann property] was a slight increase in zinc in the Alice veins from the 500 to the 1000 foot level and they became more siliceous. Furthermore, he thinks chances are remote that the base metal and manganese content of Marget Ann veins will show any appreciable change in the next 200 feet."

As previously reported, most of the galena and sphalerite in the Marget Ann veins occurs locally in narrow discontinuous sulfide bands on either wall of the veins. The impression was gained during the examination that the lead-zinc content of the veins was gradually increasing with depth as the sulfide bands appeared to be more persistent and slightly wider on each succeeding deeper level. It is regrettable, however, that company production records are not detailed enough to identify source or even the level that most individual ore lots came from for such information would give a much better understanding of the rate of increase of the base-metal content of the ores with depth.

Work on the South vein on the 550 level appears to have uncovered the best lead-zinc showing in the mine. It has been since this showing was encountered that the company installed the second flotation circuit in the mill. At the time of the January 31, 1955, examination the company supplied the data on mill heads since the mill was placed in operation in July 1954 which is on the next page.

| Lot No. | Period 1954 | Tons | Oz. Au | Oz. Ag | % Cu | % Pb | % Zn | Source |
|---|---|---|---|---|---|---|---|---|
| A | 7/ 8 - 8/ 4 | 941.4 | 0.095 | 9.28 | | 0.44 | | Mostly 300- and 400-level development ore, some 200 level. |
| B | 8/ 4 - 9/13 | 1,016.9 | 0.152 | 15.95 | | 0.59 | | Select 200-, 300-, and 400-level ore. |
| C | 9/13 - 10/ 2 | 704.0 | 0.093 | 11.16 | | 0.76 | | Leaser 200-, 300-, and 400-level ore. One dump lot milled with C but not included with figures. |
| D2-18 (excluding Lot 17) | 10/ 9 - 11/26 | 1,395.78 | 0.25 | 17.49 | | 0.66 | | Leaser 200-300-400; some 500 level. |
| D-17 | 11/27 - 12/ 4 | 407.65 | 0.092 | 8.29 | 0.26 | 1.80 | 3.52 | 500 level north strand of South vein. |
| E | No record | | | | | | | |
| F | 1/19/55 | 203.90 | 0.134 | 12.67 | | 1.55 | 4.88 | 500 level north strand of South vein. |

It is of interest to note that mill lots D-17 and F, which represent production from 550-level workings along the north strand of the South vein, contain, respectively, 5.3 percent and 6.4 percent combined lead and zinc. This is about double the combined lead-zinc content indicated by over-all production records. At the time of the January 30, 1955, examination Mr. Seideman, mine manager, contended that mill lots D-17 and F definitely showed that the mine must now be considered as a first rate base- and precious-metal property instead of a precious-metal mine containing minor values in lead and zinc as previous production records would indicate. The authors consider this interpretation to be erroneous. Admittedly, the lead-zinc showings along the north strand of the South vein on the 550 level appears to be the best in the mine. This showing, however, is not a great deal different than the better showings on the other levels except that the sulfide band is more persistent and slightly wider on the 550 level. The lead-zinc content of the ore in the vicinity of the better showing on the upper levels may be only slightly lower than that on the 550 level as on the upper level much of the vein does not contain visible lead and zinc and to maintain an average of 3 percent combined lead and zinc ore from these areas would have to be comparable to that found on the 550 level.

Considering these matters and the limited amount of work on the 550 level, it appears reasonable to assume that the lead-zinc showing on the 550 level is an expression of a local condition similar to but slightly higher grade than that which exists in the upper level. Exploration on this level will undoubtedly locate other small areas along the veins that carry 5.0 to 6.0 percent combined lead and zinc in combination with gold and silver, but this is the best that can be expected. Most of the ore on this level will probably be valued for its precious metal value and at best the average lead-zinc content may be only a few tenths of a percent higher than the approximately 3.0 percent indicated by past production records.

## Applicant's Proposal

The applicant proposes to explore the North, South, and Middle veins on the 550 level of the mine. The program, as proposed, entails 370 feet of crosscutting to cut the veins, 800 feet of drifting on each the South and Middle vein, 300 feet of drifting on the North vein, and 172 feet of raising on each of the veins. On completion of this program the applicant proposes to sink the shaft an additional 180 feet, but no funds are requested for any work off the bottom of the shaft once it is sunk. Funds are also requested to construct a new headframe and rehabilitate an air raisabetween the 200 level and the surface.

## Evaluation of Property and Applicant's Proposal

The Marget Ann property is considered an excellent precious-metal prospect from which some by-product lead and zinc may be recovered. Exploration on the 550 level, as proposed by the applicant, will undoubtedly find additional ore. Present information indicates that a small percentage of this ore on this level will carry 5.0 to 6.0 percent combined lead and zinc but that the over-all grade of ore from the level will carry only about 3.0 percent combined lead and zinc. This is not considered sufficient to justify DMEA participation in exploration at this level.

There is little information available as to the zoning in the northern part of the Butte district, but a slight increase in the amount of the zinc in the ore can be expected with depth. Although slight, it is apparent that the lead-zinc content of the Marget Ann veins is increasing with depth. Company records are such, however, that it is not possible to calculate this increase; nevertheless, the gradual increase is intriguing in that at some deeper level the lead-zinc content of the vein may be sufficient to justify DMEA participation in exploration. But at what level? On the basis of present available information any level picked would be arbitrary. The authors would suggest at least the 1000 level. Admittedly, the lead-zinc content of the veins on this level may not be a great deal larger than on the 550 level, but it is believed that exploration to test the possibilities at this depth would be warranted. Even if such a program failed to show any improvement in the lead-zinc with depth, there is a good chance of the DMEA recovering the value of the loan from precious-metal production.

Because a large percentage of the pink manganese in the Marget Ann vein appears to be intimately associated with silica or may even be rhodonite, it appears to be of little interest at present as a possible by-product. Although some test work has been done by the applicant in an attempt to recover the manganese, any concentrate made has been low grade, and it appears that it may not be economically feasible to try and recover the manganese. Before manganese is even considered as one of the minerals to be explored for, the applicant should present evidence that it is economically feasible to recover it in the ore now being treated.

Although the possibilities of a deep-level program have been discussed with Mr. Seideman, there is much doubt in the minds of the authors if the company is capable of undertaking such a program, and even if capable, whether it would be wise to undertake ~~it~~ the program at the present time. A study of the maps will show that only a small area in the immediate vicinity of the Marget Ann shaft has been explored. From

purely an economic standpoint the company would be well advised to conduct much more lateral exploration off the individual level for precious-metal ore before considering a deep-level program, in an attempt to develop the base-metal possibilities of the mine. Even though the company controls one claim, there is a great deal of ground within the confines of this claim that could be tested.

Even at the present depth of development many of the mine workings are outside the side lines of the Marget Ann claim. The applicant claims rights to the vein he proposes to explore under the apex law. However, the applicant would be well advised to protect himself by obtaining additional ground, particularly in view of the fact that the direction of movement along the large cross fault is open to question and that movement along it would affect the apex of individual veins. In considering any deep-level program for the property, it is obvious that the applicant should control more than one claim before the DMEA could consider participating in such a program. As previously reported, this matter was discussed with Mr. Seideman, and he was of the opinion that additional claims might be obtained.

## Conclusion

The Marget Ann property is considered a worthwhile silver-gold prospect from which some by-product lead and zinc may be recovered. Exploration on the 550 level, as proposed by the applicant, will undoubtedly find additional ore. The lead-zinc content of this ore can at best be expected to carry only a few tenths of a percent more lead-zinc than ore previously mined or around 3.0 percent combined. This, however, is not considered sufficient to justify DMEA participation in exploration.

A gradual increase in the lead-zinc content of the veins has been noted from the 200 to the 550 levels. For this reason exploration at a deeper level for lead-zinc may be justified. On the basis of present available information any level picked would be arbitrary. The authors would suggest at least the 1000 level. Admittedly, the lead-zinc content of the veins on this level may not be a great deal higher than that on the 550 level, but it is believed that exploration to test the possibilities at this depth would be warranted.

Although manganese is present in the Marget Ann vein, it is in such a form to be of little economic interest. For this reason it should not be considered as one of the metals to be explored.

Before the Government can consider participating in any program on the property, there are several legal questions that will have to be clarified:

(1) The applicant's present lease and option agreement on the property expires in February 1956. Any worthwhile program to test the lead-zinc possibilities could not be completed before the lease expires. When the application was presented at this office in October 1954, the applicant reported that he hoped to exercise his option to purchase the property by completing payment for it by the time the present lease expires. It appears likely that this can be accomplished, but it is not certain. The applicant was advised at the time the application was presented that it would be necessary for him to get an extension of the lease to cover the exploration period and also, if possible, to cover the repayment period. To our knowledge the applicant has not been able to get the lease extended.

(2) The applicant reports that the owners of the Marget Ann claim are unwilling to sign an Owner's Consent to Lien agreement. Should the applicant exercise the option to purchase the property, this matter would be taken care of.

(3) If exploration on a deep level is to be considered, more than one claim should be included in the contract.

It has been approximately 6 months since the application was received, and the applicant informed that the DMEA could not participate in a program until certain legal matters were attended to. It has been about 3 months since the applicant was informed that before the DMEA would probably even consider a deep-level program additional claims should be obtained. Although it is known that the applicant is trying to comply with these requests, no evidence has be presented that he will (or be about to) succeed. Under the circumstances it appears that it would be best to deny the present application on legal grounds and also on the grounds that exploration for lead-zinc at the level proposed is not considered warranted. Should the applicant succeed in arranging legal matters to the satisfaction of DMEA and also obtain additional land, serious consideration could be given to a second application for deep-level work.

Enclosures
Distribution:
DMEA(4)
USBM(2)
USGS(SRO)
Docket
Vhay
Quinlan

COPY OF A COPY

So. 157 Howard Street
Spokane 4, Washington

November 30, 1954

Mr. Walter March, Director
Montana State Bureau of Mines and Geology
Butte, Montana

Dear Walter:

The Mitchell Mining Company has submitted an application for DMEA assistance to explore the Marget Ann property in the northern part of the Butte district.

This application presents somewhat of a problem for us in that to the present depth of mine development the ore has been valued for its silver content, although it does contain small amounts of manganese, zinc, lead, and copper. However, the amounts of manganese, zinc, lead, and copper in present ore from the mine does not appear to be sufficient to interest the DMEA.

We have very little information in our files regarding whether or not we can expect an increase in the base metal content of the vein with depth and if so at what depth this change is likely to occur. We would appreciate any information you might be able to supply in regards to this problem. In particular any change that is known in the character of the veins in the Lexington and Alice mines.

Sincerely yours,

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Re: DMEA application (lead-zinc-manganese-copper)
Mitchell Mining Co., Inc.
Marget Ann claims
Silver Bow County, Montana

COPY COPY

MONTANA BUREAU OF MINES AND GEOLOGY

MONTANA SCHOOL OF MINES

BUTTE, MONTANA

December 15, 1954

Mr. A. E. Weissenborn
Executive Officer, DMEA
So. 157 Howard Street
Spokane 4, Washington

Dear Al:

This is in answer to your letter of November 30 about the possibility of an increase in depth in the base metal and manganese content of the veins of the Marget Ann mine, Butte district, Montana.

The only information I have on this problem is that the base metal and manganese content of the ore mined has not changed materially in the last two years. As for mineralization changes in the Alice and Lexington mines in depth, I called Murl Gidel for this information.

According to Murl, the only change in these mines was a slight increase in zinc in the Alice veins from the 500 to the 1000 foot level and they became more siliceous. Furthermore, he thinks changes are remote that the base metal and manganese content of Marget Ann veins will show any appreciable change in the next 200 feet.

Personally, the mineral potentialities of this part of the Butte district intrigue me, but whether they are a justifiable DMEA project is another question.

Let me know if there is any other information I can get you.

Best regards.

Sincerely,

/s/ WALTER, JR.
W. S. MARCH, JR.
Assoc. Director

WSM:iw

DATE STAMPED:
RECEIVED
DEC 20 1954
U.S.G.S.
SPOKANE, WASH.

File Copy
Surname
J. W. Alt
Signed
Selfridge
K. Johnson
Whitendorf

500

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

DEC 20 1954

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region II
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA-3603 (Lead-Zinc-Manganese-Copper)
Mitchell Mining Company, Inc.
Marget Ann Property
Silver Bow County, Montana

Dear Mr. Weissenborn:

This will acknowledge receipt of your letter of November 30, 1954, in which you state that you are investigating the possibilities of the cited application for DMEA exploration assistance.

We will hold this application in abeyance until the Field Team report is received.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

APPROVED:

/s/ Robert W. Geehan
Member, Bureau of Mines (RWG)

Thor H. Kiilsgaard
Member, Geological Survey (THK)

JWAlt/bjl (12/16/54)

Copy to: Docket
Admr. R. File
Opl Committee
Base Metals
Mr. Bishop
Mr. Kiilsgaard
Chron.

R.C.S.

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

December 15, 1954
Subject: DMEA-3603
Re: Exploration Assistance
Marget Ann

Mitchell Mining Co., Inc.

Mount Vernon, Washington

Gentlemen:

The receipt of your application dated October 20, 1954 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3603 and referred to the Base Metals Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

60932

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

December 15, 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region II

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region II.

DMEA-3603 Mitchell Mining Co., Inc.

Robert E. Adams,
Chief, Operation's Control
and Statistics Division

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

DEC 16 1954

November 30, 1954

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: DMEA application (lead-zinc-manganese-copper)
Mitchell Mining Company
Marget Ann property
Silver Bow County, Montana

Dear Mr. Selfridge:

Enclosed are the original and two copies of an application submitted by the Mitchell Mining Company for exploration aid in exploring the Marget Ann lode, Silver Bow County, Montana. One copy of the application is being retained for the files of this office. Also, enclosed are the following documents which accompanied the original copy of the application.

Lease and Option dated March 18, 1950
Assignment of Lease and Option dated August 17, 1950
Assignment of Lease and Option dated December (?) 1951
Extension of Lease and Option dated August 4, 1950
Extension of Lease and Option dated September 1, 1953

One complete set of mine maps was submitted with the application. We are holding these maps to aid in our evaluation of the applicant's proposal.

The Marget Ann property is in the northern part of the Butte district. At present, the property is producing about 50 tons of ore per day. The applicant reports that the average grade of this ore is 25 ounces of silver per ton, 0.25 ounce of gold per ton, 2 percent zinc, 1 percent lead, 0.2 percent copper, and 8 percent manganese.

The ore is milled at a 100-ton per day custom mill which is located on the property. At present, only a bulk sulfide concentrate is made in the mill. This concentrate is sold to the East Helena smelter, which pays for only the silver and gold contained in the concentrate. There are plans to add a second circuit in the mill to

recover the zinc. Also, some test work is being done to see if the manganese is recoverable. We have recently examined the property. It is apparent that the amount of base metals in the ore is increasing with depth; however, there appears considerable question as to whether this increase is sufficient to justify DMEA participation in the exploration at the level proposed by the applicant; however, deeper level exploration may be justified. We are endeavoring to obtain information on mineralogical changes with depth in neighboring properties. This could have an important bearing on the case.

There are also several legal questions which will have to be clarified before a contract with the applicant could be considered.

(1) The applicant's present lease and option agreement on the property expires in February 1956. The applicant's proposed schedule of work would not allow the proposed work to be completed by the time this lease expires. The applicant reports that he hopes to have exercised his option to purchase the property by completing payment for it by the time the present lease expires. It appears likely that this can be accomplished, but it is not certain. We have therefore advised that it will be necessary for him to get an extension of the lease to cover the exploration period and also, if possible, to cover the repayment period.

(2) The applicant has also stated that the owners are unwilling to sign an Owner's Consent to Lien agreement.

Obviously no extensive technical investigation is warranted unless the legal situation can be satisfactorily settled; equally obviously it would be a waste of time to attempt this if the project were to be denied on geologic grounds.

Therefore, we first plan to appraise the base metal possibilities of the property from information on nearby properties which we expect to obtain from various sources. The application will then either be denied, or if it appears likely that DMEA exploration is warranted we will contact the operator to determine whether a workable program can be agreed on. If a feasible program can be worked up, before proceeding further it will then be necessary for the operator to make satisfactory arrangements so that the Government's right to royalty will be adequately protected. Provided all these details can be settled satisfactorily processing of a contract would then go ahead.

Very truly yours,

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosures

cc: USBM (2)
Quinlan

U. S. BUREAU OF MINES
RECEIVED
OCT 22 1954
SPOKANE, WASHINGTON

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
OCT 29 1954
U. S. G. S.
SPOKANE, WASH.

DIRECTOR OF THE MINES
Defense Minerals Administration
RECEIVED
DEC 10 1954

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

*Not to be filled in by applicant*

Docket No. 3603
Metal or Mineral Lead, Zinc, Manganese, & Copper
Date Received
Estimated Cost $230,758
Participation (Government %)

## INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address:

Mitchell Mining Co., Inc.
Mount Vernon, Washington
Corporation. State of Washington.

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

(*c*) If a corporation, add to above statement, titles, names and addresses of officers. See attached page 1.

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract The Marget Ann Lode, Survey No. 774 Lot No. 142, Sec. 1, T. 3 N., R. 8 W. Situated in Silver Bow County, Montana.

(*b*) State any mine name by which the property is known. Marget Ann

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Purchaser under contract

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. See attached copy of lease and option. Also see Page 1 (Attached)

(*e*) If you own the land, describe any liens or encumbrances on it None

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Patented Claims (Pat. No's 774.)

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes. See attached pages 2, 3, & 4.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. See attached page 5.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. See attached page 5.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. See attached page 6

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

See attached page 6

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore See attached page 7.

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. See attached page 7.

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract. See attached page 7.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. See attached page 7.

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

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.). See attached page 8.

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants. See attached page 8.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. See attached page 8.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be. See attached page 8.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project. See attached page 8.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project. Page 8

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes. See attached page 8

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

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs. See attached page 8.

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

(*b*) How do you propose to furnish your share of the costs? See attached page 9.

[x] Money [x] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper.

## CERTIFICATION

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

Dated October 20, 1954, 1954

Mitchell Mining Co., Inc.
(Applicant)

By E. B. Olmsted, Pres. /s/

Ralph J. Seideman, Mgr. /s/

**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.**

MITCHELL MILLING CO., INC.
MOUNT VERNON, WASHINGTON.

1 (a).

| | | |
|---|---|---|
| E. B. Olmsted | President | Mount Vernon, Washington |
| D. H. Peck | Vice-President | Mount Vernon, Washington |
| Walter Hartwick | Secretary | Mount Vernon, Washington |
| A. C. Pelland | Treasurer | Mount Vernon, Washington |
| Reuben Youngquist | Director | Mount Vernon, Washington |
| J. C. Pickering | Director | Mount Vernon, Washington |
| Herb Person | Director | Mount Vernon, Washington |
| Maurice Zigler | Director | Anacortes , Washington |
| Knute Krovick | Director | Everett , Washington |

3 (a).

Amount paid on property to September 30, 1954, $30,037.49

MITCHELL MINING CO., INC.
MOUNT VERNON, WASHINGTON.

4. (a).

The Mitchell Mining Company has since October 1, 1950 performed the following work:

Reopened the Margot Ann shaft from surface to the 190' level. Sunk the shaft from the190' level to the 300' level. Sunk a winze on the South vein from the 300' level to the 400' level. Raised the shaft from the 400' level to the 300' level. Sunk the shaft from the 400' level to a depth of 570'.
Total shaft sinking and reopening winze--562'.
Cross-cutting:
200' level @ 190' from surface
Reopened 170' XC to the North vein.
Reopened 70' XC to middle vein
300'level @ 300' from surface
Drove from shaft 140XC to South vein.
Drove from shaft 250XC to North vein.
Drove from shaft 30XC to Accommodate winze.
Drove from shaft 60 XC to structure South of South vein.
400' level.
Drove from shaft 280 XC to North vein.
Drove from shaft 70 XC to South vein.
Drove from South to middle vein 230'
550' level.
From 550 lateral 40' toward middle vein
From 550 lateral 30' toward South vein
From 550 lateral 20' south for pump set up.
Total cross-cutting driven and reopened 1560'.
Drifting. (Not including sub level work).
200 level.

| North vein | Middle vein |
|---|---|
| 160' driven | |
| 70' reopened | 90' reopened |
| 230' | 90' |

300' level.

| South vein | North Vein | Middle vein. |
|---|---|---|
| 305' | 420' | 60' |

400' level.

| South vein | North vein | Middle vein. |
|---|---|---|
| 350' driven | 330' driven | 270' driven |

550' level

South vein Lateral drift
80'

Total drifting 2135'.

Mitchell Mining Co., INC.
MOUNT VERNON, WASHINGTON

4.(a) Continued.

200' Raises
North vein
70'

300' Raises
North vein
330'

South vein
90'

400' Raises
North vein
368'

| South vein | Middle vein |
|---|---|
| 90 | 50 |
| 60 | 45 |
| 15 | |
| 35 | |
| 200' | 95' |

Total Raises 1158'

| | |
|---|---|
| Total Shafts | 662' |
| XC | 1960 |
| Drifts | 2155 |
| Raises | 1158 |
| Total Development | 5510' |

Stoping:
Stopes are being mined above the 200' level, above the 300' level and above the 400' level.
Present development work is being done on the 350' level. This consists of driving a drift East on the North vein, a cross cut North toward the middle vein and diamond drilling North toward a possible hanging wall structure on the South vein.

WITHRELL MINING CO., INC.
MOUNT VERNON, WASHINGTON.

4.(d) continued.

In addition to the development and stoping listed the mine is serviced through a two compartment shaft. One compartment hoisting, the other contains a manway and for air, water, electricity, pumping and ventilation. A manway exit is opened to surface but not complete with ladders timber and manway.

Production facilities include 4 stopers, 1 EX diamond drill machine and 200' of rod, 2 rock log machines, 2 reaming machines, 1 slusher, 1 air trammer, 16 ore cars, 2 tugger hoists, 1 International truck, 1 blacksmith shop equipped, 2 ventilation fans, 2 electric pumps, 1 electric sinker hoist, 1 jet sinking pump, 24 Edison cap lamps and charging units, 2 Joy electric air compressors which furnish approximately 800 cubic feet of air per minute.

Our primary interest is to mine manganese, lead, copper, zinc, gold and silver in volume and to produce concentrates from an existing 100 ton per day mill on the property. To date we are producing a bulk concentrate containing lead, copper, zinc, gold and silver. We have produced a manganese concentrate which has been purchased by the Manganese depot in Butte, Montana.

Mine workings are accessible for examination with the exception of filled stopes and the North vein above the 550 which has been abandoned after mining ore.

MITCHELL MINING CO., INC.
MOUNT VERNON, WASHINGTON.

4. (b)

Past Production 16,000 Tons

| Lead | Mn | Au | Ag | Cu | Zn |
|---|---|---|---|---|---|
| 1.0 | 8% | .25 | 25 | .2 | 2 |

Current Production 1300 Tons of ore per month at above grade.

Ore reserves available for mining 7500 Tons (Not including pillars or probable ore). Grade based on samples and past production.

| Au. | Ag | Pb | Zn | Cu | Mn |
|---|---|---|---|---|---|
| .18 | 18 | 1.0 | 2.0 | .2 | 8% |

4.(c)

The Marget Ann mine has four well defined veins; The North vein striking N 80 degrees E, The South vein striking N 70 degrees E, the middle vein striking N 80 degrees E and the Northeast vein striking N 52 degrees E. The North, South and middle veins dip to the North. The dip steepens from the 300' level downward from 50 degrees to 70 degrees. The North east vein dips Northwest at 55 degrees Plus. The country rock is granite (quartz Monzonite) with someaplite. The most prominent geological feature is a fault strikes N 50 degrees E and dips 45 degrees to the Northwest.
The fault, post mineral, displaces the veins to the North about 120'. The vein mineralization on the North vein and middle vein are similar. Shalerite, Galena, chalcopyrite and pyrite, associated with a white quartz, are found on the hanging wall of the vein. Under the sulphides toward the foot wall is a mixture of rhodochrosite and quarts containing the silver and gold. The silver, gold portion in the manganese is a sulphide which to date has not been possitivly identified.

We wish to explore on the 550' level for the following reasons:

1. The surface geology cannot be mapped due to errosion deposition and drainage pattern of the major fault whichconceals the Eastward continuity of the North, middle and South veins.
2. The Eastward extension of these three veins may represent the vein at greater depth due to fault movement, hence an increase in base metal content.
3. We believe from aerial photos of this area that our veins align well with productive veins mined at the Black Rock Mine.

MITCHELL MINING CO., INC.
MOUNT VERNON, WASHINGTON.

4. (d)

The property is located in the city limits of Walkerville, a suberb of Butte, Montana.
Access roads from the mine consist of a dirt road, 300 yards, hence to a dirt road, county maintained, 700yards, hence oiled roads and streets to US 10 or US 91. Distance to the Manganese depot, 4 miles. Distance to smelter, East Helena, 65 miles. Distance to railroads: Butte, Anaconda & Pacific, 1½ miles, our nearest loading point which is serviced by three transcontinental railroads.
Supply and residence points: Butte, Montana.

4. (e)

Manpower availability--Good
Material availability--Good
Supplies availability--Good
Equipment availability--good
Water availability from mine.
Commercial drinking water can be had from Butte Water Company.
Power availability from Montana Power Company. 44,000 volt line to property.

MITCHELL MINING CO., INC.
MOUNT VERNON, WASHINGTON.

5. (a)

Pb, Zn, Mn, Cu.

(b) Work Proposed:

(1). Rehabilitate air shaft from surface to the 200' level, for ventilation and second exit. This shaft is connected to mine workings.
(2). Build a headframe of sufficient height and capacity to service development.
(3). To develope the 550' level with 370' of cross-cut (8x7) which would intersect South vein, middle vein and North vein.
To drift 600' East and West on South vein.
To drift 600' East and West on middle vein.
To drift 300' East and West on North vein.
To raise 172' on each of these veins.
To diamond drill North 500' for North vein, East of fault
(4). To sink 180' of two compartment shaft.

5. (c). The work will be started immediately upon receiving a work contract and will be completed in eighteen months.

(d). Mr. E. B. Olmsted, President, Associated in mining the last twenty one years, operating in Butte and vicinity last nine years. Present company producing Pb, Zn, Cu, Mn, Au, and Ag.
Mr. Ralph J Seideman, Manager, Graduate Geological Engineer, Mining experience, Anaconda Mining Company, Engineer, Shift Boss, Ass't Foreman, Research Engineer U. S. Bureau of Mines, Health and Safety Division. Day Mines, Mine Foreman, General Mine Foreman Sherman, Hercules and Tamarack Mines.
Mine Manager, Mitchell Mining Company, twenty three months. Eighteen years mining.
Lloyd Thompson, Supt. Graduate Engineer, General Engineer Outside properties, Anaconda Mining Company. Leaser and operator. Fourteen years experience.

MITCHELL MINING CO., INC.
MOUNT VERNON, WASHINGTON.

7. (b). By use of equipment owned by Mitchell Mining Company (See 6 d). Balance to be furnished by mining operations being conducted in the mine at present time.

ROY M. HAMMOND

WALTER F. EVERLY

# McCARTHY LABORATORIES

ASSAYERS AND CHEMISTS

METAL AND NON-METALLIC ORE TESTING
ASSAYING AND CHEMICAL ANALYSIS

P. O. BOX 201
27 W. GRANITE ST. • BUTTE, MONTANA
PHONE 2-1738

SPECTROGRAPHIC ANALYSIS
SHIPPERS REPRESENTATIVES

Mr. Mitchell Mining Co. Oct. 19, 1954

| No. | DESCRIPTION | Per Ton of 2000 Lbs. Ozs. Gold | Gold at | Ozs. Silver | Per Cent Copper | Per Cent Lead | Per Cent Zinc | Per Cent Silica | Per Cent Iron | Per Cent | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2.0 foot vein 550 W. side | 0.03 | | 13.4 | | 1.65 | 1.45 | | | | |
| | 1.6 foot vein 550 E. side | 0.03 | | 9.5 | 0.30 | 7.35 | 3.70 | | | | |

Charges $

Respectfully,

Don C. Lawson

MITCHELL MINING CO., INC
MOUNT VERNON, WASHINGTON

# ASSIGNMENT OF LEASE AND OPTION

KNOW ALL MEN, that:

WHEREAS, a certain lease and option agreement was made, entered into and delivered on the 18th day of March, 1950, by KATHLEEN C. O'DONNELL, MARY D. CORETTE, JOHN K. CLAXTON and WANDA CLAXTON, his wife, and JOHN CALLAHAN, a single person, all of Butte, Montana, and MADELAINE CALLAHAN HEALY of 3454 S. Utah, Apt. 2, Arlington, Virginia; and MARION C. ANDERSON of 1250 W. Minnehaha Parkway, Minneapolis, Minnesota; and CATHERINE C. PETTIBONE, Columbia Falls, Montana, and CORNELIUS CALLAHAN and ROSE C. CALLAHAN, his wife, of 640 B. Avenue, Coronado, California; and JOSEPH CALLAHAN and MARTHA COOPER CALLAHAN, his wife, of 2028 N. Kentucky Street, Arlington, Virginia, to FRANK BENICH of 814 Waukesha Street, Butte, Montana, which said lease and option agreement was duly and regularly extended by virtue of an agreement by and between the above-named parties entered into on the 4th day of August, 1950, and was further extended, changed and modified by an agreement of the parties, dated the 17th day of November, 1951, which said agreements are hereby made a part hereof by reference thereto; and

WHEREAS, in the said Lease and Option of March 18, 1950, it is, among other things, provided that said agreement may be assigned by Frank Benich, upon written consent of the Parties of the First Part, an earlier assignment having been executed to the Mitchell Mining Co., a Washington corporation, on August 17,1950 without such written consent, but such written consent having now been obtained, and

WHEREAS, in the said Lease and Option, it is, among other things, provided that "In the event that ores are shipped from

said property and treated at a smelter, the Lessee shall pay to said Lessors a royalty of ten percent (10%) on all ores yielding a net smelter return of Twenty-five Dollars ($25.00) or less per ton, and a royalty of fifteen percent (15%) on all ores yielding a net smelter return of over Twenty-five Dollars ($25.00) per ton, said royalties to be deducted at the smelter and paid directly by the smelter to said Lessors. Payment of said royalties shall be forwarded by the smelter to the credit of the First Parties at the Metals Bank and Trust Company, Butte, Montana. It is further expressly agreed between the parties hereto that the said Lessee shall have the right and option to purchase said premises hereby leased during the life of this lease, for the sum of Eighty Thousand Dollars ($80,000.00) upon the following terms and conditions; said Eighty Thousand Dollars ($80,000.00) to be paid to said Lessors as follows, to-wit: The full sum of Eighty Thousand Dollars ($80,000.00) shall be paid to the Lessors at Metals Bank and Trust Company, Butte, Montana, on or before the first day of February, 1953. It is understood and agreed by and between the parties hereto that the royalties hereinabove described and referred to shall apply on the purchase price and the amount of any royalties paid during the term of this lease shall be deducted from said amount of Eighty Thousand Dollars ($80,000.00)."

NOW, THEREFORE, in consideration of the sum of one dollar ($1.00) and other valuable consideration paid by Mitchell Mining Co. of Mount Vernon, Washington, a corporation organized and existing under the laws of the State of Washington, Assignee herein, the receipt whereof, is hereby acknowledged, we, the said Frank Benich and Mary Benich, his wife, Assignors, hereby transfer and assign to the said Assignee all of our right, title and interest in and to the Lease and Option Agreement and Agreements in Extension and Modification thereof, hereinabove referred to and described,

upon the express proviso, condition and consideration, however, that said Assignee hereby consents and agrees to pay to Frank Benich and Mary Benich, Assignors herein, for assignment of all of their right, title, interest and equity in and to said Lease and Option Agreement with extensions and the property therein described the sum of Thirty Thousand Dollars ($30,000.00), said sum to be paid after, and only after, the Assignee hereinabove named has fully complied with the terms of said Lease and Option Agreement for payment of said purchase price, as hereinabove set forth, and said purchase price of Eighty Thousand Dollars ($80,000.00) has been paid in full.

That said sum of Thirty Thousand Dollars ($30,000.00) is to be paid by said Assignee to said Assignors as follows, to-wit:

In the event that ores are shipped from said property and treated at a smelter, the Assignee herein shall pay to the Assignor herein a royalty of ten percent (10%) on all ores yielding a net smelter return of Twenty-five Dollars ($25.00) or less per ton, and a royalty of fifteen percent (15%) on all ores yielding a net smelter return of over Twenty-five Dollars ($25.00) per ton, said royalties to be deducted at the smelter. Payment of said royalties shall be forwarded by the smelter to the credit of Assignor at the Metals Bank and Trust Company, Butte, Montana, except for the manganese ore shipped to The Government Purchasing Depot, located at the Domestic Manganese and Development Co. smelter at Butte, Montana, the royalties on such ore to be paid direct by the Mitchell Mining Co. to credit of Assignor at said bank. However, it is understood and agreed that Assignee can pay to Assignor the entire sum of Thirty Thousand Dollars ($30,000.00) in lieu of royalty payments above set forth.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of December, 1951.

_____
(Frank Benich)

_____
(Mary Benich)

Subscribed and sworn to before me this ___ day of December, 1951.

_____
Notary Public in and for the State of Montana, residing at Butte.

MITCHELL MINING CO., INC.
MOUNT VERNON, WASHINGTON.

ASSIGNMENT OF LEASE AND OPTION

KNOW ALL MEN, that:

WHEREAS, a certain lease and option agreement was made, entered into and delivered on the 18th day of March, 1950, by Kathleen C. O'Donnell, Mary D. Corette, John K. Claxton and Wanda Claxton, his wife, and John Callahan, a single person, all of Butte Montana, and Madelaine Callahan Healy, of 3454 S. Utah, Apartment 2, Arlington, Virginia; and Marion C. Anderson of 1250 W. Minnehaha Parkway, Minneapolis, Minnesota; and Catherine C. Pettibone, Columbia Falls, Montana; and Cornelius Callahan and Rose C. Callahan, his wife, of 640 B. Avenue, Coronado, California; and Joseph Callahan and Martha Cooper Callahan, his wife, of 2028 No. Kentucky Street, Arlington Virginia, to Frank Benich of 814 Waukesha Street, Butte, Montana, which said lease and option agreement was duly and regularly extended by virtue of an agreement by and between the above named parties entered into on the 4th day of August, 1950, which said agreements are hereby made a part hereof by reference thereto; and

WHEREAS, in the said lease and option agreement of March 18, 1950, it is, among other things, provided that said agreement may be assigned by the said Frank Benich.

WHEREAS, in the said agreement, it is, among other things, provided that "In the event that ores are shipped from said property and treated at a smelter, the Lessee shall pay to said Lessors a royalty of ten per cent (10%) on all ores yielding a net smelter return of Twenty-five Dollars ($25.00) or less per ton, and a royalty of Fifteen per cent (15%) on all ores yielding a net smelter return of over Twenty-five Dollars ($25.00) per ton, said royalties to be deducted at the smelter and paid directly by the smelter to said Lessors. Payment of said royalties shall be forwarded by the smelter to the credit of the First Parties at the Metals Bank and Trust Company, Butte, Montana. It is further expressly agreed between the parties hereto that the said Lessee shall have the right and option to purchase said premises hereby leased during the life of this lease, for the sum of Eighty Thousand Dollars ($80,000.00) upon the following terms and conditions: said Eighty Thousand Dollars ($80,000.00)

to be paid to said Lessors as follows, to-wit: The full sum of Eighty Thousand Dollars ($80,000.00) shall be paid to the Lessors at Metals Bank and Trust Company, Butte, Montana, on or before the first day of February, 1953. It is understood and agreed by and between the parties hereto that the royalties hereinabove described and referred to, shall apply on the purchase price and the amount of any royalties paid during the term of this lease shall be deducted from said amount of Eighty Thousand Dollars ($80,000.00)."

NOW, THEREFORE, in consideration of the sum of one dollar ($1.00) paid by Mitchell Mining Co. of Mount Vernon, Washington, a corporation organized and existing under the laws of the State of Washington, Assignee herein, the receipt whereof is hereby acknowledged, I, the said Frank Benich, Assignor, hereby transfer and assign to the said Assignee all of my right, title and interest in and to the Lease and Option Agreement and Agreement in Extension thereof, hereinabove referred to and described, upon the express proviso, condition and consideration, however, that said Assignee hereby consents and agrees to pay to Frank Benich, Assignor herein for assignment of all of his right, title, interest and equity in and to said Lease and Option Agreement and the property therein described the sum of Thirty Thousand Dollars ($30,000.00), said sum to be paid after, and only after, the Assignee hereinabove named has fully complied with the terms of said Lease and Option Agreement for payment of said purchase price, as hereinabove set forth, and said purchase price of Eighty Thousand Dollars ($80,000.00) has been paid in full.

That said sum of Thirty Thousand Dollars ($30,000.00) is to be paid by said Assignee to said Assignor as follows, to-wit:

In the event that ores are shipped from said property and treated at a smelter, the Assignee herein shall pay to the Assignor herein a royalty of ten per cent (10%) on all ores yielding a net smelter return of Twenty-five Dollars ($25.00) or less per ton, and a royalty of Fifteen per cent (15%) on all ores yielding a net smelter return of over Twenty-five Dollars ($25.00) per ton, said royalties to be deducted at the smelter. Payment of said royalties shall be forwarded by the smelter to the credit of Assignor at the Metals Bank and Trust Company, Butte, Montana. However, it is understood and

agreed that Assignee can pay to Assignor the entire sum of Thirty Thousand ($30,000.00) Dollars in lieu of royalty payments above set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 17th day of August, 1950.

FRANK BENICH

Subscribed and sworn to before me this 17th day of August, 1950.

H. D. Carmichael
Notary Public for the State of Montana; residing at Butte, Montana.
My Commission expires April 11, 1951.

KNOW ALL MEN, that Mitchell Mining Company, a Washington Corporation, Assignee hereinabove named, hereby unconditionally and irrevocably accepts the above and foregoing Assignment of Lease and Option to it by Frank Benich and hereby agrees to all of the terms, provisions and conditions of said Assignment.

IN WITNESS WHEREOF, Mitchell Mining Company has caused this Acceptance to be signed by its President, thereunto duly authorized, and its corporate seal to be affixed, attested by its Secretary, this _____ day of December, 1950.

MITCHELL MINING COMPANY, a Corporation

By: E. E. OLMSTED
President

CORPORATE SEAL

Attest:

WALTER HARTWICK
Secretary

MITCHELL MINING CO., INC.
MOUNT VERNON, WASHINGTON

## LEASE AND OPTION

This LEASE AND OPTION made this 18th day of March, 1950, by and between KATHLEEN C. O'DONNELL, MARY D. CORETTE, JOHN K. CLAXTON and WANDA CLAXTON, his wife, and JOHN CALLAHAN, a single person, all of Butte, Montana, and MADELAINE CALLAHAN HEALY, of 3454 S. Utah, Apartment 2, Arlington, Virginia; and MARIAN C. ANDERSON of 1250 W. Minnehaha Parkway, Minneapolis, Minnesota; and CATHERINE C. PETTIBONE, Columbia Falls, Montana; and CORNELIUS CALLAHAN and ROSE C. CALLAHAN, his wife, of 640 B. Avenue, Coronado, California, and JOSEPH CALLAHAN and MARTHA COOPER CALLAHAN, his wife, of 2028 No. Kentucky Street, Arlington, Virginia, "Lessors" and Parties of the First Part, and FRANK BENICH of 814 Waukesha Street, Butte, Montana, "Lessee" and Party of the Second Part,

W I T N E S S E T H :

That the said Lessors, for and in consideration of the rents, royalties, covenants and agreements hereinafter reserved, and by the Lessee to be paid, kept and performed, have let, and by these presents do let unto the said Lessee, all right, title and interest of Lessors in and to all of the following described mining property, situated in Silver Bow Couty, Montana, more particularly described as follows, to-wit:

The Marget Ann Lode, Survey No. 774,
Lot No. 142, Sec. 1, T. 3N., R. 8W.

TO HAVE AND TO HOLD unto the said Lessee from the first day of February, 1950, for a full period of three (3) years, unless sooner forfeited or determined in accordance with the terms and provisions of this lease.

In consideration of said Lease, the said Lessee covenants and agrees with the said Lessors as follows, to-wit:

Lessee agrees to enter upon said premises, or some part thereof, by May 1, 1950, and commencing on that date work on said premises at least one hundred (100) eight-hour (8-hour) shifts per month during the life of this lease and option, and to do the work thereon in a manner necessary to good and economical mining, so as to take out the greatest amount of

ore possible, with due regard to the safety, development and preservation of said premises as a workable mine and to carry on all of the said mining operations in a good minerlike fashion and to properly and safely timber said property at all points where proper and necessary, and to keep all of said mining premises in a safe and proper condition during the term of this lease.

That on or before thirty (30) days from the expiration of the following calendar month said Lessee will present to Lessors duplicate copies of receipts showing the payment for the shifts worked upon said premises, as hereinbefore provided, for the preceding month.

The Lessee further covenants and agrees that before doing any work on said premises he will apply for and take out at his own cost and expense Workmen's Compensation Insurance from the Industrial Accident Board of the State of Montana, and prior to employing any person or persons to work on the premises, and will at all times thereafter keep said insurance in full force and effect.

Said Lessee hereby agrees to save and hold harmless, and does hereby hold harmless, said Lessors from any and all liability of any kind or nature whatsoever for damages or injuries sustained or claimed to be sustained by any person or persons whomsoever, whether employees, licensees, trespassers or otherwise, in or about the premises hereby leased.

This lease shall not be subject to cancellation or termination by Lessors for failure to do the work herein provided to be done if the Lessee is prevented from performing such work by acts of God, Government regulations or strikes, including contingent strikes, such as smelters, railroad or others, which prevent selling of products or purchase of supplies.

It is further agreed that said Lessee shall, when due, pay for all work and labor performed and material used in or on said premises, or any part thereof, and shall suffer no lien or encumbrance to be placed on said property or any part thereof, and shall, on demand, exhibit to said Lessors receipts for all labor, time and material used in and on said premises, and a violation of this covenant by said Second Party shall, at the option of

the First Parties, terminate this lease; provided, however, that in the event said Lessee shall violate any of the terms or conditions of said Lease, he shall have thirty (30) days thereafter within which to do the things necessary to comply with the terms and conditions hereof, and said Lessors shall give said Lessee notice in writing addressed to said Lessees 814 Waukesha Street, Butte, Montana, by depositing such notice in the Post Office at Butte, Montana, postage thereon prepaid, and such depositing in said Post Office of said notice shall constitute the legal giving of such notice, and should said Lessee not comply with the terms or conditions violated by him before the expiration of said period of thirty (30) days, then this lease and Option shall be immediately terminated and at an end.

Second Party further covenants and agrees that he will, upon the termination of this Lease, either by lapse of time, forfeiture or otherwise, deliver up to said First Parties the quiet and peaceable possession of said leased premises, without any cost, expense or trouble of any kind whatsoever to said First Parties.

It is agreed between the parties hereto that all the rights and interests of the said Second Party in, to or on account of this agreement, or in and to the real estate subject to this agreement, shall be assignable by him, his heirs, assigns or successors, upon the written consent, but not otherwise, of said First Parties; provided however, that said Lessee may assign and transfer this Lease and Option to a corporation to be formed by him for the purpose of carrying out the terms and conditions of this Lease and Option.

It is further agreed between the parties hereto that the provisions of this agreement affecting said property shall be considered to be covenants running with said property and shall be binding upon the heirs of all parties hereto, except as above set forth.

The parties hereto further agree that all the covenants and agreements herein contained shall extend to and be obligatory upon the heirs, executors, administrators, assigns and successors of the respective parties hereto, except as hereinbefore provided.

It is further agreed between the parties hereto that the Party of the Second Part will, during the life of this agreement, pay all taxes

levied upon said property, including all gross metals mines tax, all net proceeds of mines tax, and all royalties tax levied and assessed to both of the parties hereto against the proceeds from the operations of said premises hereby leased.

It is hereby agreed that a failure on the part of said First Parties to declare this lease terminated and at an end by reason of any default in, or failure to comply with, the terms of this lease, shall not be deemed a waiver of the right of the said First Parties to so declare this lease terminated or forfeited for any subsequent default or failure to comply with the terms of this lease.

This lease may be terminated by the Parties of the First Part for any failure or forfeiture by said Party of the Second Part under the terms of this lease, upon mailing written notice to said Second Party to the address hereinbefore given and to be forfeited as hereinbefore set forth, and the lease shall thereupon be automatically terminated and said Second Party allowed Sixty (60) days to remove machinery and equipment placed by him on said premises from the said premises. Upon the failure of said Second Party to remove said machinery and equipment within said period, the same shall be and remain on said premises, and immediately become the property of said First Parties.

In the event that the ores are shipped from said property and treated at a smelter, the Lessee shall pay to said Lessors a royalty of ten per cent (10%) on all ores yielding a net smelter return of Twenty-five Dollars ($25.00) or less per ton, and a royalty of fifteen per cent (15%) on all ores yielding a net smelter return of over Twenty-five Dollars ($25.00) per ton, said royalties to be deducted at the smelter and paid direct by the smelter to said Lessors.

Payment of said royalties shall be forwarded by the smelter to the credit of the First Parties at the Metals Bank and Trust Company, B utte, Montana.

It is further expressly agreed between the parties hereto that the said Lessee shall have the right and option to purchase said premises

hereby leased during the life of this lease, for the sum of Eighty Thousand Dollars ($80,000.00), upon the following terms and conditions:

> Said Eighty Thousand Dollars ($80,000.00) to be paid to said Lessors as follows, to-wit:
>
> The full sum of Eighty Thousand Dollars ($80,000.00) shall be paid to the Lessors at Metals Bank & Trust Company, Butte, Montana, on or before the first day of February, 1953.

It is understood and agreed by and between the parties hereto that the royalties hereinabove described and referred to, shall apply on the purchase price and the amount of any royalties paid during the term of this lease shall be deducted from said amount of Eighty Thousand Dollars ($80,000.00).

Said First Parties agree that upon compliance by Second Party with all of the terms and conditions of this lease and option and the full payment of the purchase price by Second Party, as hereinbefore set forth, and at the times and places hereinbefore set forth, that they (the said First Parties) will make, execute and deliver to said Second Party, a good and sufficient deed, granting and conveying to Second Party all right, title and interest of First Parties in and to the mining claim hereinbefore described.

It is further understood and agreed by and between the parties hereto that in the event the Party of the Second Part, Lessee, shall fail to exercise the said option to purchase the property hereinabove described, by the payment of the amounts hereinabove specified, within the times hereinabove designated, that this agreement, and all rights of the Lessee hereunder shall immediately and without notice be terminated and at an end, and of no further force or effect, and all sums of money theretofore paid hereunder, either as royalty or on the purchase price of said property, shall be and become the property of the Parties of the First Part as additional consideration for the granting of this Lease and Option, and all obligations upon the part of both parties hereto shall thereupon terminate and end; and upon failure of the Party of the Second Part, or his assigns, to make said payments on said purchase price within the times and in the manner hereinabove prescribed, the Parties of the First Part, or

their attorneys, shall have the right to immediately re-enter and retake possession of the mining claims hereinabove described.

Any failure upon the part of the Party of the Second Part to comply with any or all of the terms of this Lease and Option shall immediately terminate the same and the same shall be of no further force and effect, provided said First Parties shall give to said Second Party the notice hereinbefore provided to be given.

It is further understood and agreed that the Lessors or their agents, shall, at all reasonable times, have the privilege of entering into and examining all of the workings of said property, and shall be given free and ready access thereto, so long as the same does not interfere with mining operations conducted on said premises, and for such purpose may have the use of all ways and means therefor on said premises.

Time is expressly made the essence of this entire agreement, and any failure on the part of Lessee to comply with any of the terms or conditions of this Lease and Option shall terminate this entire agreement and all rights of the Second Party thereunder, and Lessee expressly promises and agrees to return this agreement to the Lessors, and agrees to surrender immediate possession of the premises herein described, together with all improvements, buildings, sheds, tracks, or pipe lines which may be erected or placed thereon by said Party of the Second Part, it being understood however, that said Party of the Second Part, Lessee, shall have the right to remove any machinery or tools placed upon said premises during the life of this agreement, and shall have sixty (60) days within which to remove the same, and upon failure to so remove the same within said time, it shall become the property of First Parties.

It is expressly understood and agreed that this agreement shall be binding upon all the heirs, administrators, successors, and assigns of the parties hereto, with the exceptions hereinbefore set forth.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands the day and year first above written.

LESSORS:-

Kathleen C.O'Donnell

Mary D. Corette

John K. Claxton

Wanda Claxton

Catherine Callahan Pettibone

John Callahan

By: C. P. Callahan
His Attorney in Fact

Madelaine Callahan Healy

By: C. P. Callahan
Her Attorney in Fact

Marian C. Anderson

By: C. P. Callahan
Her Attorney in Fact.

Cornelius Callahan

By: C. P. Callahan
His Attorney in Fact.

Rose C. Callahan

By: C. P. Callahan
Her Attorney in Fact

Joseph Callahan

By: C. P. Callahan

Martha Cooper Callahan

By: C. P. Callahan
Her Attorney in Fact.

LESSEE:

Frank Benich

STATE OF MONTANA )
) ss.
County of Silver Bow )

On this 23rd day of March, 1950, before me, the undersigned, a Notary Public for the State of Montana, personally appeared [illegible], known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

[illegible]
Notary Public for the State of Montana
Residing at Butte, Montana
My commission expires Jan. 2, 1951.

STATE OF MONTANA )
) ss.
County of Silver Bow. )

On this 18th day of March, 1950, before me, the undersigned, a Notary Public for the State of Montana, personally appeared [illegible], known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

[illegible]
Notary Public for the State of Montana
Residing at Butte, Montana
My Commission expires January 2, 1951.

STATE OF MONTANA )
) ss.
County of Silver Bow )

On this 25th day of March, 1950, before me, the undersigned, a Notary Public for the State of Montana, personally appeared JOHN K. [illegible] and [illegible], his wife, known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

[illegible]
Notary Public for the State of Montana
Residing at Butte, Montana
My Commission expires January 2, 1951.

STATE OF MONTANA )
) ss.
County of Silver Bow )

On this 23rd day of March, ~~1950~~, in the year nineteen hundred and fifty, before me, a Notary Public for the State of Montana, personally appeared C. P. CALLAHAN, known to me to be the person whose name is subscribed to the within instrument as the Attorney in Fact of Madelaine Callahan Healy, Marian C. Anderson, Cornelius Callahan and Rose C. Callahan, his wife, Joseph Callahan and Martha Cooper Callahan, his wife, and John Callahan, a single person, and acknowledged to me that he subscribed the name of Madelaine Callahan Healy, Marian C. Anderson, Cornelius Callahan, and Rose C. Callahan, his wife, Joseph Callahan and Martha Cooper Callahan, his wife, and John Callahan, a single person, thereto as prinicpal, and his own name as attorney in fact.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

ROBERT D. CORETTE
Notary Public for the State of Montana
Residing at Butte, Montana
My Commission expires January 2, 1951.

STATE OF MONTANA )
) ss.
County of Flathead )

On this 10th day of April, 1950, before me, the undersigned, a Notary Public in and for the State of Montana, personally appeared CATHERINE CALLAHAN PETTIBONE, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

GLENN M. McGUIRE
Notary Public for the State of Montana
Residing at Hungry Horse, Montana
My Commission expires July 12, 1951.

STATE OF MONTANA )
) SS.
County of Silver Bow )

On this 17th day of August, 1950, before me, the undersigned, a Notary Public for the State of Montana, personally appeared FRANK DANICH, known to me to be the person whose name is subscribed to the foregoing instrument, and he acknowledged to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

H. D. CARMICHAEL
Notary Public for the State of Montana
Residing at Butte, Montana
My Commission expires April 11, 1951

MITCHELL MINING CO., INC
MOUNT VERNON, WASHINGTON.

EXTENSION OF LEASE AND OPTION

THIS AGREEMENT made and entered into this 4th day of August 1950, by and between KATHLEEN C. O'DONNELL, MARY D. CORETTE, JOHN K. CLARKE and WANDA CLARKE, his wife, and JOHN CALLAHAN, a single person, all of Butte, Montana, and [illegible] CALLAHAN HALEY, of 3454 S. Utah, Apartment 2, Arlington, Virginia; and Mollie C. [illegible] of 1250 W. Minnehaha Parkway, Minneapolis, Minnesota; and CATHERINE C. [illegible], Columbia Falls, Montana; and CORNELIUS CALLAHAN and [illegible] C. CALLAHAN, his wife, of 640 B. Avenue, Coronado, California; and JOHN CALLAHAN and [illegible] CALLAHAN, his wife, of 2028 No. Kentucky Street, Arlington, Virginia, "Lessors" and Parties of the First Part, and [illegible] BEACH of 814 Waukesha Street, Butte, Montana, "Lessee" and Party of the Second Part.

W I T N E S S E T H :

WHEREAS, the parties hereto on the 18th day of March, 1950, made and entered into a lease and option agreement with regards to property particularly described as follows, to wit:

The Margot Ann Lode, Survey No 774,
Lot No. 142, Sec. 1, T. 3N., R.8W.

in Silver Bow County, Montana, and

WHEREAS, under the terms and provisions of said lease and option the Lessee agreed to enter upon said premises or some part thereof by May 1, 1950 and commencing on that date work on said premises at least one hundred (100) eight-hour (8-hour) shifts per month during the life of said lease and option and as provided in said lease and option, and

WHEREAS, it is now a mutual benefit to the parties of said lease and option to extend the time for lessee to enter upon the premises or some part thereof for the commencement of work from May 1, 1950 to September 1, 1950.

NOW, THEREFORE, in consideration of the sum of One Dollar ($1.00) and other valuable consideration paid by the parties of the first part to the party of the second part and from the party of the second part to the parties of the first part, it is mutually understood and agreed that said lease and option made and entered into by and between the parties hereto and dated the 18th day of

March, 1950 be, and the same is, hereby amended to read September 1, 1950 instead of May 1, 1950 with regard to the date for the commencement of work on the premises.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands the day and year first above written.

Kathleen C. O'Donnell

Mary D. Corcoran

Catherine Callahan Pottibone

John Callahan

By C. J. Callahan
His Attorney in Fact

Madelaine Callahan Healy

By C. J. Callahan
Her Attorney in Fact

Marian C. Anderson

By C. J. Callahan
Her Attorney in Fact

Cornelius Callahan

By C. P. Callahan
His Attorney in Fact

Rose C. Callahan

By C. P. Callahan
Her Attorney in Fact

Joseph Callahan

By C. J. Callahan
His Attorney in Fact

Martha Cooper Callahan

By C. J. Callahan
Her Attorney in Fact

Frank Benich
Lessee

Wanda Claxton

JOHN K. CLAXTON

His (X) Mark

Witness to Mark of
JOHN K. CLAXTON

C. P. Callahan

STATE OF MONTANA )
) ss.
COUNTY OF SILVER BOW )

On this 4th day of August, 1950, before me, the undersigned, a Notary Public for the State of Montana, personally appeared KATHERINE C. O'DONNELL, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

J. R. [illegible]
Notary Public for the State of Montana
Residing at Butte, Montana
My Commission Expires Feb. 17, 1951.

STATE OF MONTANA )
) ss.
COUNTY OF SILVER BOW )

On this 4th day of August, 1950, before me, the undersigned, a Notary Public for the State of Montana, personally appeared RUDY D. [illegible], known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

H. G. DEAN
Notary Public for the State of Montana.
Residing at Butte, Montana
My Commission Expires Dec. 5, 1951.

STATE OF MONTANA )
) ss.
COUNTY OF SILVER BOW )

On this 4th day of August, 1950, before me, the undersigned, a Notary Public for the State of Montana, personally appeared JOHN K. CLAXTON and WANDA CLAXTON, his wife, known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

L. C. [illegible]
Notary Public for the State of Montana.
Residing at Butte, Montana.

STATE OF MONTANA )
) ss.
COUNTY OF SILVER BOW )

On this 4th day of August, in the year nineteen hundred and fifty, before me, H. G. Dean, a Notary Public for the State of Montana, personally appeared C. F. CALLAHAN, known to me to be the person whose name is subscribed to the within instrument as the Attorney in Fact of Madelaine Callahan Healy, Marion C. Anderson, Cornelius Callahan and Rose C. Callahan, his wife, Joseph Callahan and Martha Cooper Callahan, his wife and John Callahan, a single person , and acknowledged to me that he subscribed the name of Madelaine Callahan Healy, Marion C. Anderson, Cornelius Callahan, and Rose C. Callahan, his wife, Joseph Callahan and Martha Cooper Callahan, his wife, and John Callahan, a single person, thereto as principal, and his own name as Attorney in fact.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

H. G. DEAN
Notary Public for the State of Montana.
Residing at Butte, Montana.
My Commission expires Dec. 5, 1951.

STATE OF MONTANA )
) ss.
COUNTY OF SILVER BOW )

On this 17th day of August, 1950, before me, the undersigned, a Notary Public for the State of Montana, personally appeared FRANK BARICH known to me to be the person whose name is subscribed to the foregoing instrument, and he acknowledged to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

H. D. CAMERON
Notary Public for the State of Montana
Residing at Butte, Montana.
My Commission expires April 11, 1951.

STATE OF MONTANA )
) ss.
COUNTY OF FLATHEAD )

On this 9th day of August, 1950, before me, the undersigned, a Notary Public in and for the State of Montana, personally appeared CATHERINE CALLAHAN FLETCHER, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

GLENN M. REGENE
Notary Public for the State of Montana
Residing at Butte, Montana
My Commission expires July 12, 1951.

MITCHELL MINING CO.,
MOUNT VERNON, WASHINGTON

# EXTENSION OF LEASE AND OPTION

THIS AGREEMENT Made and entered into this 1st day of September, 1953, by and between KATHERINE C. O'DONNELL, JOHN CALLAHAN, J. E. CORETTE, MARY C. HAUCK, MARGARET C. PAUL and ROBERT D. CORETTE, all of Butte, Montana, and MADELAINE CALLAHAN HEALY of 3454 So. Utah, Apartment 2, Arlington, Virginia; and MARIAN C. ANDERSON of 1250 W. Minnehaha Parkway, Minneapolis, Minnesota; and CATHERINE C. PETTIBONE, Columbia Falls, Montana; and CORNELIUS CALLAHAN and ROSE C. CALLAHAN, his wife, of 640 B. Avenue, Coronado, California; and JOSEPH CALLAHAN and MARTHA COOPER CALLAHAN, his wife, of 2028 N. Kentucky Street, Arlington, Virginia, Parties of the FIRST PART and "LESSORS", and FRANK BENICH of 814 Waukesha Street, Butte, Montana, Party of the SECOND PART, and "LESSEE",

W I T N E S S E T H :

WHEREAS, a Lease and Option was entered into the 18th day of March, 1950, between the above parties and/or their predecessors in interest for a Lease and Option of the Marget Ann Lode, Survey No. 774, Lot No. 142, Sec. 1, T. 3N., R. 8W., in Silver Bow County, Montana, and

WHEREAS, there was an extension of that Lease and Option entered into the 4th day of August, 1950, the same parties and/or their predecessors in interest having signed the original Lease and Option and the Extension thereto as are signing this Agreement, except John K. Claxton and Wanda Claxton, his wife, the said John K. Claxton being prevented from executing this Agreement only because of serious illness, and

WHEREAS, a further agreement for Extension, Assignment and Modification of payment of royalties of Lease and Option was entered into on the 17th day of November, 1951, the same parties and/or their pre-

decessors in interest having signed said Agreement as signed the original Lease and Option, except John K. Claxton and Wanda Claxton, his wife, the said John K. Claxton being prevented from executing said Agreement only because of serious illness, and

WHEREAS, Under the original Lease and Option of date the 18th of March, 1950, Lessors let unto Lessee all right, title and interest of Lessors in and to all of the following described mining property situated in Silver Bow County, Montana, more particularly described as follows:

The Marget Ann Lode, Survey No. 774,
Lot No. 142, Sec. 1, T. 3N., R. 8W., and

WHEREAS, the parties to said Lease and Option of date the 18th of March, 1950, desire to amend the legal description and providing that the Lease shall cover

The Marget Ann Lode, Survey No. 774,
Lot No. 142, Sec. 1, T. 3N., R. 8W.,
Minerals and surface, with the exception of surface Tracts 1, 2, 3 and 4,
which tracts are shown on the plat
attached hereto, and

WHEREAS, Lessee desires to impound tailings on the surface of said property, and

WHEREAS, Lessors are agreeable to such impoundment, with the exception that the impoundment cannot be on the Tracts marked 1, 2, 3 and 4 as shown on the map attached hereto, and

WHEREAS, it is to the mutual benefit of the parties to extend the period of said Lease and Option for an additional two (2) years, from February 1, 1954 to February 1, 1956, and

WHEREAS, it is the desire of Frank Benich, the Party of the Second Part and Lessee, to assign the said Lease and option and changes thereto to MITCHELL MINING CO., a Washington corporation of 212 Union Building, Mount Vernon, Washington;

NOW, THEREFORE, in consideration of the sum of One Dollar ($1.00) and other valuable consideration paid by the Party of the Second Part to the Parties of the First Part, it is mutually understood and agreed

that the terms of said Lease and Option made and entered into on the 18th day of March, 1950, by and between the parties hereto and/or their predecessors in interest, and said Extension of Lease and Option entered into on the 4th day of August, 1950, by and between the parties hereto and/or their predecessors in interest, and the said Agreement for Extension, Assignment and Modification of Payment of royalties of Lease and Option entered into on the 17th day of November, 1951, by and between the parties hereto and/or their predecessors in interest, are extended as follows:

1. The term of said Lease and Option shall be for a full period of six (6) years, from the 1st day of February, 1950, to the 1st day of February, 1956.

2. The property under the original Lease and Option was

> The Marget Ann Lode, Survey No. 774,
> Lot No. 142, Sec. 1, T. 3N., R. 8W.,

and that description is hereby changed to read

> The Marget Ann Lode, Survey No. 774,
> Lot No. 142, Sec. 1, T. 3N., R. 8W.,
> minerals and surface, except surface
> Tracts 1, 2, 3 and 4 as shown on the
> attached plat marked Exhibit "A"

and that is now the property covered by the Lease and Option and all the amendments thereto.

3. Lessee may impound tailings on any of the surface of The Marget Ann Lode, with the exception that it may not impound tailings on surface Tracts 1, 2, 3 and 4 shown on the plat marked Exhibit "A" attached.

4. The Lessors consent to the assignement of said Lease and Option and extensions thereto, dated August 4, 1950, November 17, 1951, and this present extension, to the MITCHELL MINING CO., a Washington corporation, of 212 Union Building, Mount Vernon, Washington, this being the written consent required by the terms of the original Lease and Option. It is understood and agreed that the said MITCHELL MINING CO. shall be obligated to carry out the terms and conditions of said Lease and Option as extended and modified, and for that reason the Lessors agree

to hereafter send any and all notices required by said Lease and Option to the MITCHELL MINING CO. at the address above set forth.

PARTIES OF THE FIRST PART:

/S/ KATHERINE C. O'DONNELL
Katherine C. O'Donnell

/S/ J. E. CORETTE
J. E. Corette

/S/ MARY C. HAUCK
Mary C. Hauck

/S/ MARGARET C. PAUL
Margaret C. Paul

/S/ ROBERT D. CORETTE
Robert D. Corette

/S/ CATHERINE CALLAHAN PETTIBONE
Catherine Callahan Pettibone

/S/ JOHN CALLAHAN
John Callahan

/S/ MADELAINE CALLAHAN HEALY
Madelaine Callahan Healy

/S/ MARIAN C. ANDERSON
Marian C. Anderson

/S/ CORNELIUS CALLAHAN
Cornelius Callahan

/S/ ROSE C. CALLAHAN
Rose C. Callahan

/S/ JOSEPH CALLAHAN
Joseph Callahan

/S/ MARTHA COOPER CALLAHAN
Martha Cooper Callahan

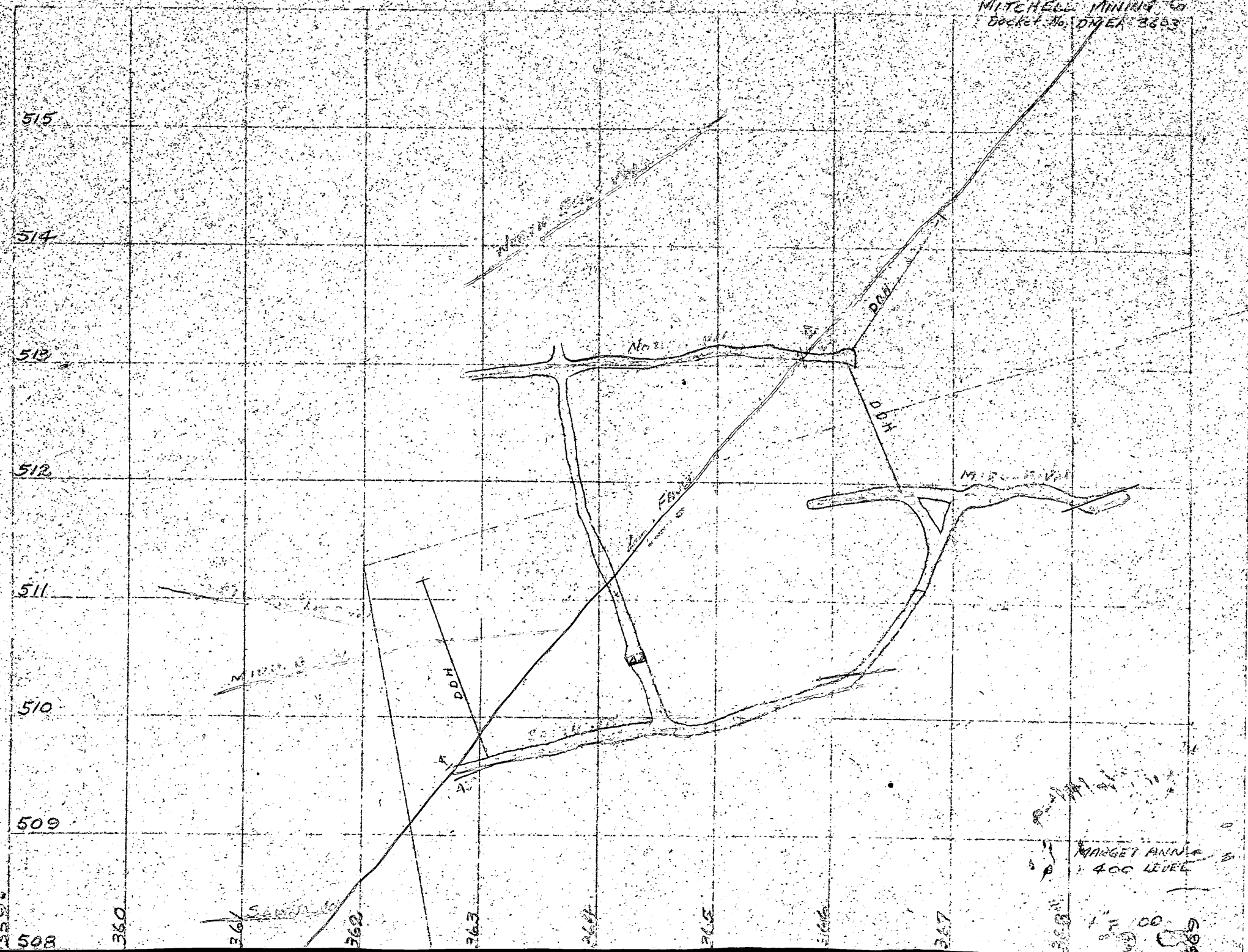
PARTY OF THE SECOND PART:

/S/ FRANK BENICH
Frank Benich

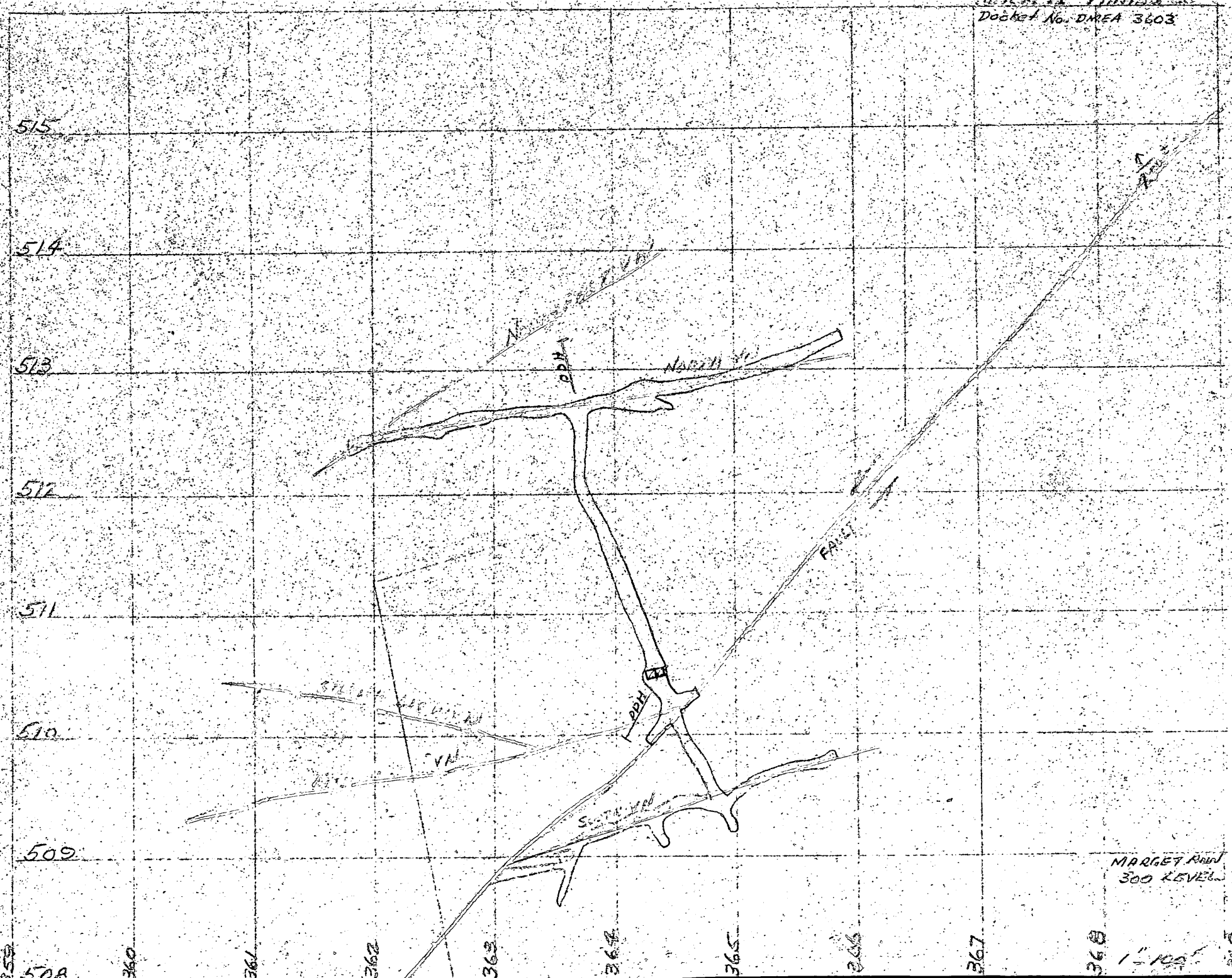
45

Hon. C. O. Mitchell, [illegible]
Room 4624 Pittsburgh [illegible]

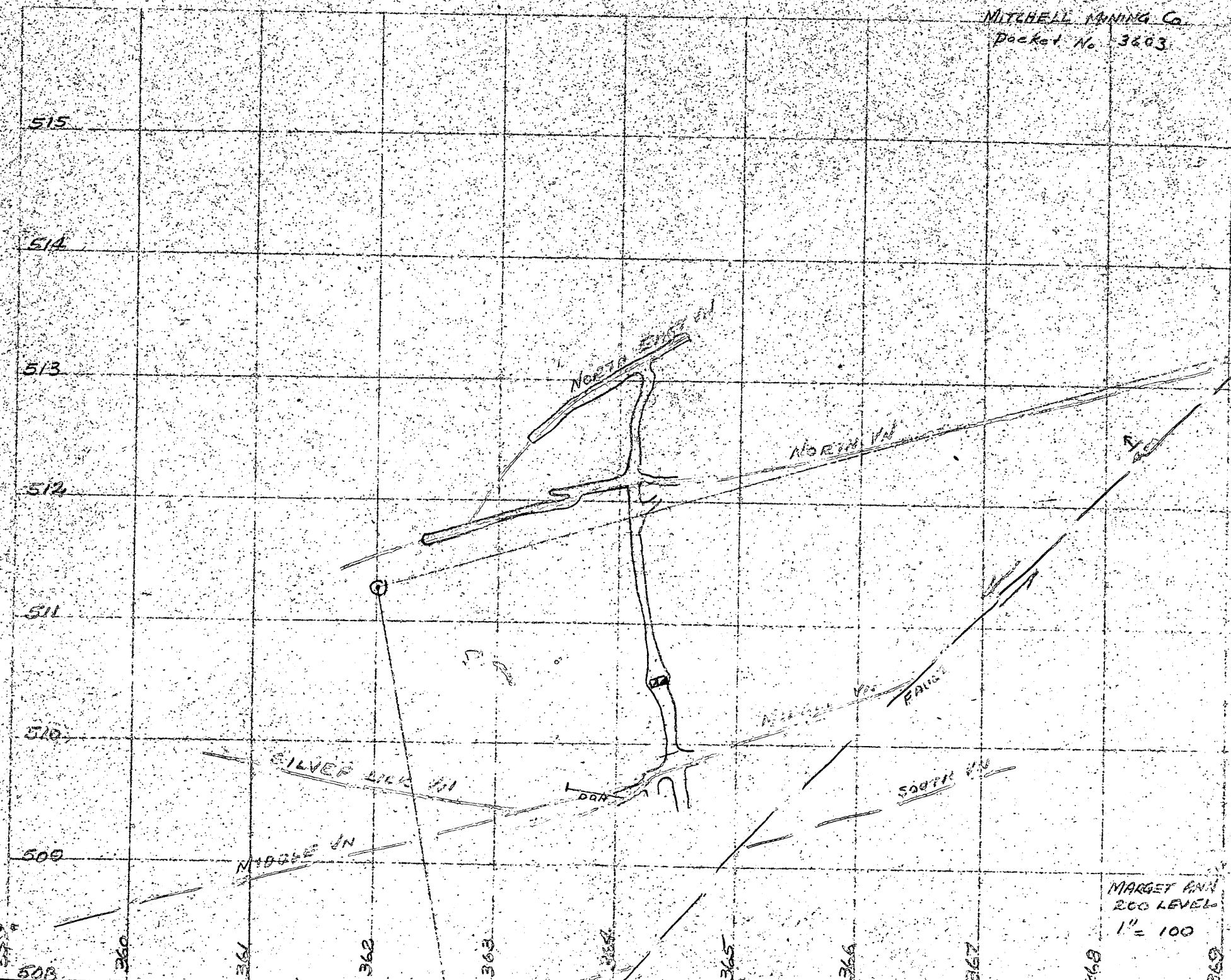
MITCHELL MINING CO
Docket No. DMEA 3603



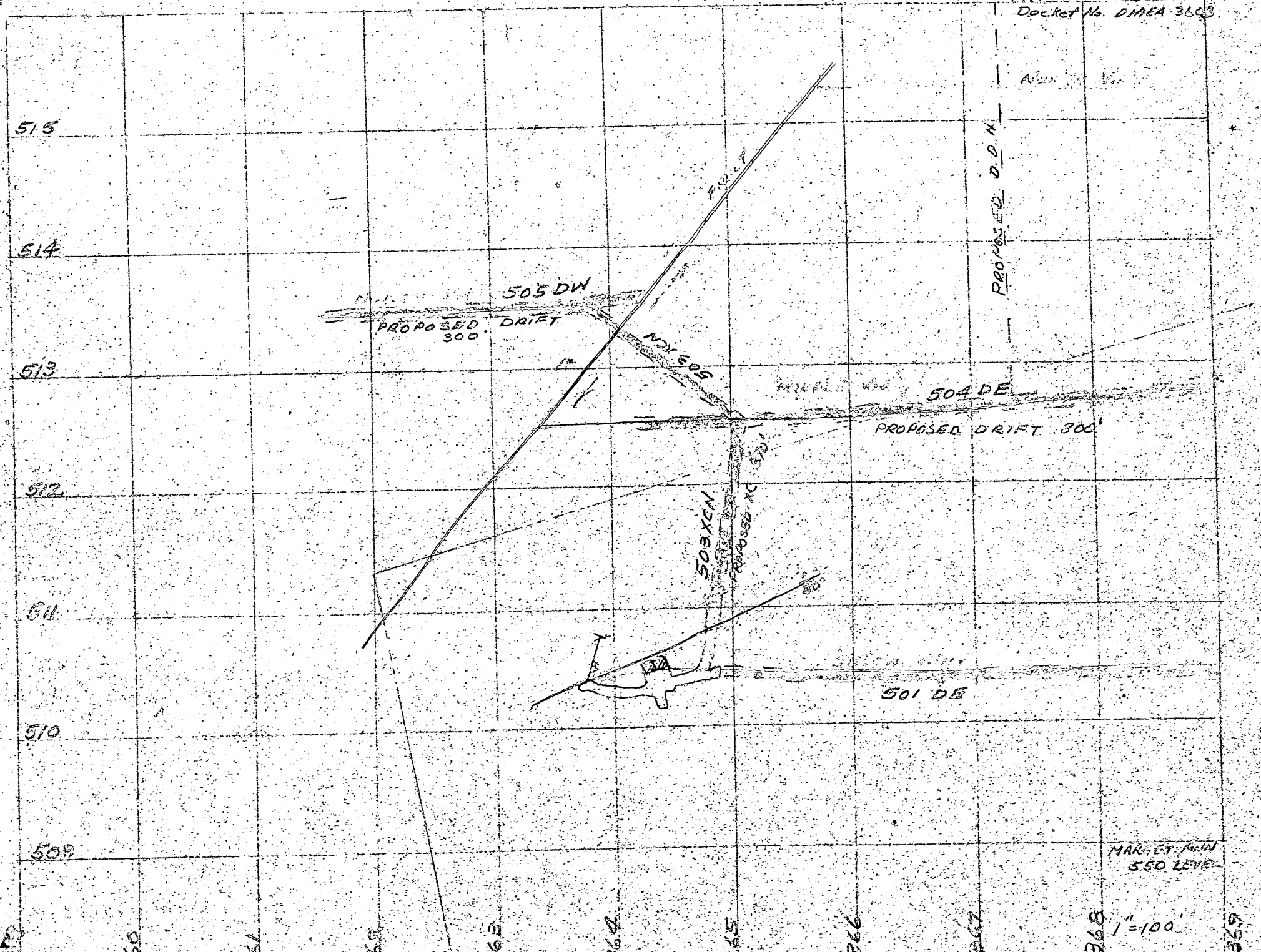
Docket No. DMEA 3603



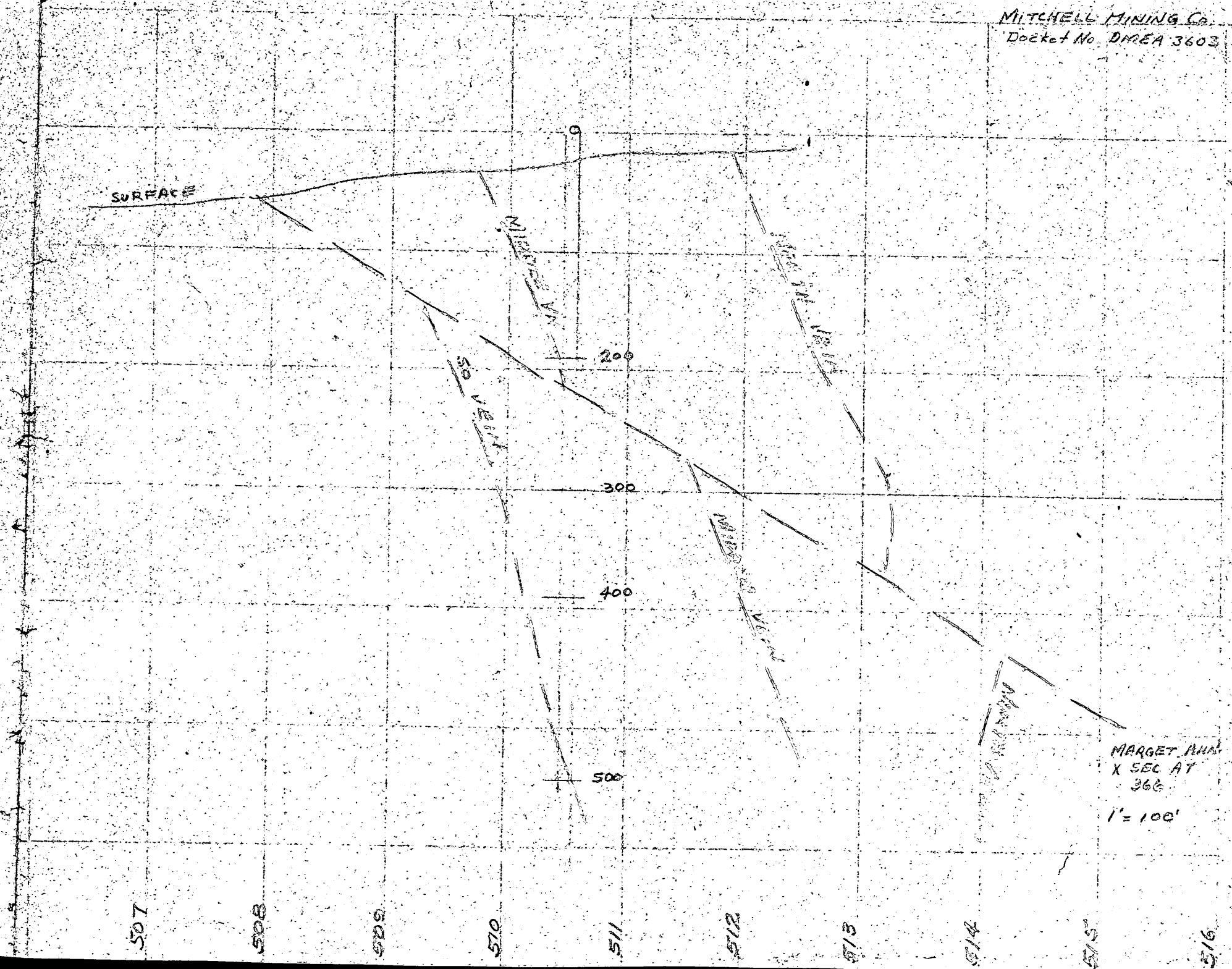
MITCHELL MINING Co.
Docket No. 3603



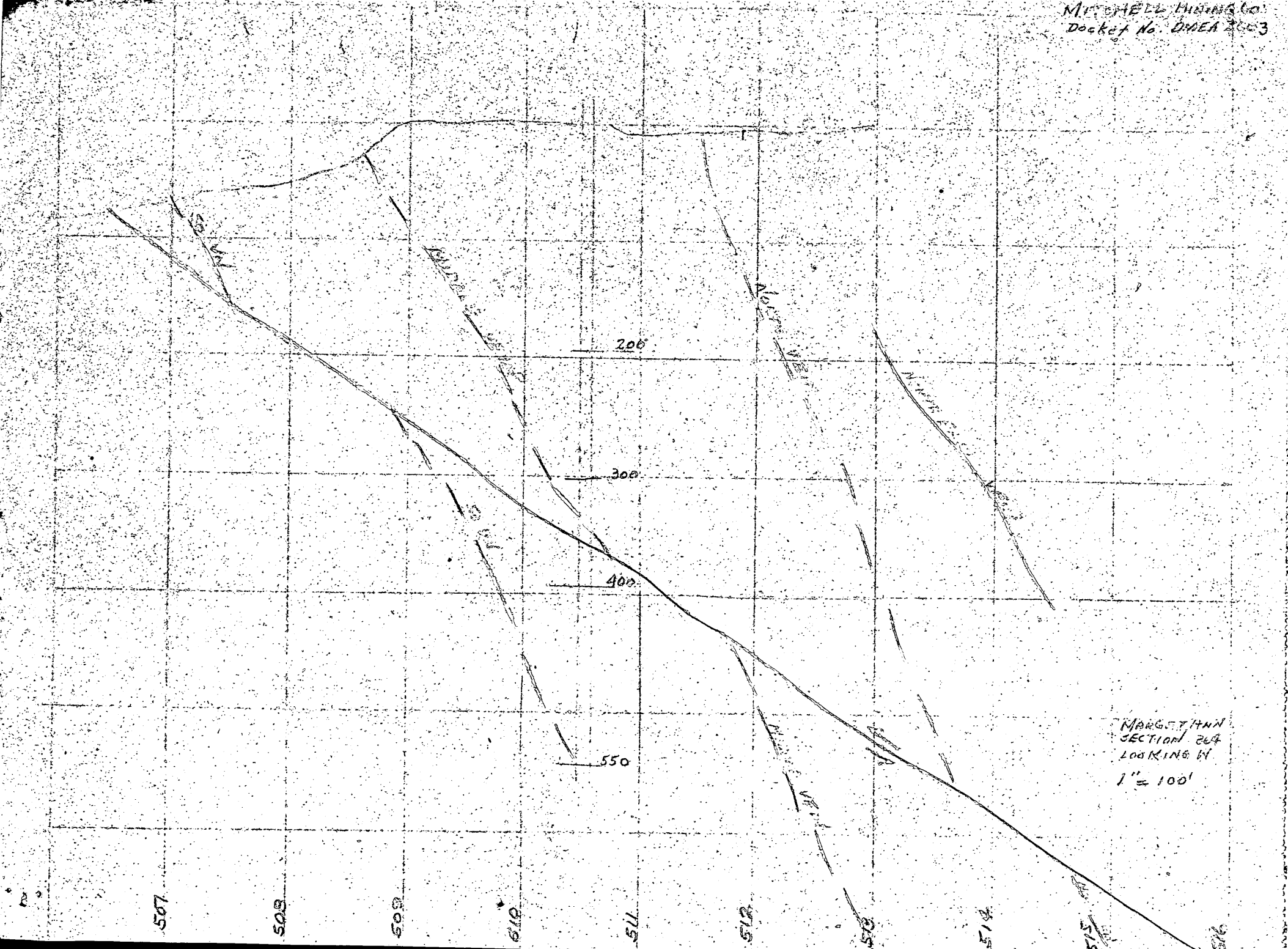
MITCHELL MINING CO.
Docket No. DMEA 3603



MITCHELL MINING CO.
Docket No. DMEA 3603



MITCHELL MINING CO.
Docket No. DMEA 2003



UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

May 13, 1955

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-3603 (lead-zinc manganese-copper)
Mitchell Mining Company, Inc.
Marget Ann property
Silver Bow County, Montana

Dear Mr. Selfridge:

Enclosed is a memorandum from J. J. Quinlan and J. S. Vhay, geologists, Geological Survey, recommending denial of the application for DMEA assistance to explore the Marget Ann property of the Mitchell Mining Company in Silver Bow County, Montana. The Marget Ann mine does have some attraction as a mining venture for further exploration or development; however, from the viewpoint of DMEA there are a number of undesirable features. These are:

(1) Although there are locally places where the base-metal content is higher, all available information suggests that at present levels, including the deepest existing level, the ore averages only about 3 percent combined lead and zinc. The chief value of the ore is in its gold and silver content. Manganese content, in general, is negligible although the ore does carry rhodochrosite and probably some rhodonite.

(2) Although there is geologic reason to anticipate an increase in base-metal content with increasing depth, the bottom level does not appear to be significantly higher in base-metal content than do the upper levels nor is any significant change expected within the next several hundred feet.

(3) The Mitchell Mining Company controls only one single claim which is insufficient ground to justify the expense of deep exploration which would be required to search for base-metal ores; furthermore, even on existing levels the workings are approaching or in some cases going beyond the sidelines of the property.

(4) The applicant has only a short-time lease which expires in February 1956 and can give no assurance that this lease will be renewed.

(5) The Mitchell Mining Company cannot obtain Owner's Consent to Lien.

In view of the above difficulties, we cannot recommend approval of the company's application. Should the company obtain a long-term lease to the ground or purchase the claims and acquire sufficient adjoining property, a well-considered program of deep-level exploration would probably be worth consideration.

By Field Team, Region 1, NW District

A. S. Weissenborn, Exec. Officer
(U. S. Geological Survey)

Wing O. Agnew, Member
(U. S. Bureau of Mines)

Enclosures(4)
Distribution:
USBM(2)
USGS(SRO)
Quinlan
Vhay

DMEA

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 13 1955

May 4, 1955

MEMORANDUM

To: DMEA Field Team, Region I, Northwest District

From: J. J. Quinlan and J. S. Vhay, Geologists, U. S. Geological Survey

Subject: Docket No. DMEA-3603 (lead-zinc-manganese-copper), Field Examination, Mitchell Mining Company, Inc., Marget Ann Property, Silver Bow County, Montana.

## Introduction

The Marget Ann mine was examined by the authors on November 18, 19, and 20, 1954, with reference to the subject application for exploration assistance. Recent work on the 550 level of the mine was examined by J. J. Quinlan and D. F. Kellum of the U. S. Geological Survey on the afternoon of January 29, 1955.

Mr. Ralph Seideman, mine manager, accompanied and assisted the examiners on November 18, 1954, and January 29, 1955.

## Recommendation

It is recommended that the Mitchell Mining Company's present application for DMEA assistance to explore the Marget Ann claim be denied for the following reasons:

(1) Any worthwhile program to explore the lead-zinc possibilities of the property cannot be completed before the applicant's lease expires in February 1956.

(2) The owners are unwilling to sign an "Owner's Consent to Lien" agreement.

(3) Exploration for lead and zinc at the level proposed by the applicant is not considered warranted.

Should the applicant succeed in arranging legal matters to the satisfaction of DMEA and obtain an interest in claims surrounding the Marget Ann claim, it is recommended that serious consideration be given any future application for deep level lead-zinc exploration on the property.

## Applicant

The applicant is the Mitchell Mining Company, Inc., of Mount Vernon, Washington. Officers of the company are E. B. Olmsted, president, L. M. Peck, vice president, Walter Hartwick, secretary, and A. C. Pelland, treasurer. These officials are residents of Mount Vernon, Washington. Manager for the company is R. J. Seideman of Butte, Montana. Mr. Seideman is a graduate geological engineer with considerable operating experience. He is fully qualified to direct and supervise exploration and development of the property.

Discussion with Mr. Seideman indicates that the officers of the company have little appreciation of mining practice and in the past this has hampered exploration and development work necessary for efficient operation. The impression was also gained that while some of the officers of the company are wealthy men the company itself is financially weak.

## Location

The Marget Ann property is a few thousand feet north of the main producing area of the Butte mining district, Silver Bow County, Montana. It lies within but near the northern limits of the community of Walkerville, a small suburb in the northern part of Butte.

Located as it is within the city limits of Walkerville, the property is very accessible. It is about 1.8 miles from downtown Butte to the mine and only 0.3 mile from the center of Walkerville to the mine.

## Property and Ownership

The property consists of one patented quartz lode mining claim, the Marget Ann Lode, Survey No. 774, Lot No. 142, sec. 1, T. 3 N., R. 8 W., M.P.M., Silver Bow County, Montana. The Marget Ann Lode is owned by 12 individuals: Kathleen C. O'Donnell, Mary D. Corette, John K. Clarton, Wanda Clarton, and John Callahan, all of Butte, Montana; Madelaine Callahan Healy, Joseph Callahan, and Martha Cooper Callahan, all of Arlington, Virginia; Cornelius Callahan and Rose C. Callahan, Coronada, California; Marian C. Anderson, Minneapolis, Minnesota; and Catherine C. Pettibone, Columbia Falls, Montana.

The owners of the property have granted a lease and option on the property to Frank Benich of Butte, Montana. Mr. Benich, in turn, has assigned the lease and option on the property to the Mitchell Mining Company. Copies of the various documents by which the applicant claims rights, title, and interest in the Marget Ann claim were filed with the application. If a contract were to be granted, a careful study by the Legal Division should be made to see that they are in order.

The present lease and option agreement under which the applicant is operating the Marget Ann property expires February 1, 1956. The applicant estimates that it will take 18 months to complete the proposed project; therefore, not enough time is provided for under the terms of the present lease to complete the work proposed. Mr. Seideman reported at the time the property was examined in January that the company was trying to obtain an extension of the present lease and option agreement. However, we have not been informed by the company that it was successful in this undertaking and assume that as yet it has not been able to obtain one. If the applicant cannot obtain an extension of the present lease, it expects to be able to keep control of the property by exercising its option to purchase it before the present lease and option agreement expires.

The owners of the property are unwilling to sign an Owner's Consent to Lien agreement. Considering the apparent weak financial position of the company, it appears that it may not be prudent to waive the applicant's obligation to obtain an Owner's Consent to Lien and accept a guarantee in lieu of such an agreement. If, however, the applicant exercised his option to purchase the claim, no Consent to Lien agreement would be needed.

The fact that the applicant has control over only one claim is another circumstance that would guide the size and extent of any program that the Government could consider. This matter was discussed in January with Mr. Seideman along with the possibility of some deep-level exploration, and he was of the opinion that additional claims might be obtainable.

There is a 100-ton per day flotation mill on the property. This mill was built by the Contract Milling Company of Butte, Montana, as a custom mill but with the thought that it would treat mostly Marget Ann ore. Although the Contract Milling Company is a separate organization from the Mitchell Mining Company, the two companies are reported to have an interlocking directorship. There was recently an unconfirmed announcement in the local newspapers that the Mitchell Mining Company had purchased the interest of Contract Milling Company in the mill.

## History and Past Production

Little is known of the early history of the Marget Ann claim. When the mine was reopened by the Mitchell Mining Company in the fall of 1950, the mine had been explored and developed to the 200 level. Since that time the Mitchell Mining Company has rehabilitated the upper part of the Marget Ann shaft and most of the 200 level, sunk the shaft to a depth of 570 feet, and carried on exploration and development on the 200, 300, 400, and 550 levels. Exploration and development of the 550 level, however, has just started, and it is for this program that the applicant requests DMEA assistance.

At the time application was made (October 1954) the applicant reported past production from the property at 16,000 tons of ore averaging 25.0 ounces of silver per ton, 0.25 ounce of gold per ton, 2.0 percent zinc, 1.0 percent lead, 0.2 percent copper, and 8.0 percent manganese. The base- and precious-metal content of the ore, as reported, is not based on a weighted average of shipments but is only an estimate made by the applicant as to the average grade of all shipments. Inspection of the smelter settlement sheets indicates that this estimate is reasonably accurate for the gold and silver, but it may be a few tenths of a percent high for the lead and zinc. The manganese content of the ore, as reported, is based on only a few samples, and these samples are far too few to use in assigning a grade to all the ore mined.

Prior to the time the custom mill was installed on the property (July 1954), most of the ore was shipped as crude ore to the East Helena smelter. When the mill was first placed in operation, only a bulk sulfide concentrate was made which was also shipped to the East Helena smelter. The applicant was paid by the smelter for only the gold and silver contained in the crude ore and bulk concentrate. In November 1954 a second circuit was added to the mill so as to make both a lead concentrate and a zinc concentrate.

## Workings

The Marget Ann property is developed through a two-compartment shaft 570 feet deep. Principal working levels from the shaft are the 200, 300, 400, and 550 levels which are shown on the maps accompanying this memorandum. Drifting and crosscutting on these four levels total about 4,000 feet. About 1,250 feet of raises have also been driven from these levels to explore the veins.

## Geology

The geology of the Butte district has been described by many authors, but the most noteworthy publications on the district are:

Weed, W. H., Geology and Ore Deposits of the Butte District, Montana: U. S. Geol. Survey Prof. Paper 74, 1912.

Sales, R. H., Ore Deposits at Butte, Montana: Trans. AIME, vol. 46, pp. 3-109, 1914.

Sales, R. H., Meyer, C., Wall Rock Alteration at Butte, Montana: Trans. AIME, vol. 178, pp. 9-33, 1948.

The reader is referred to these publications for a detailed account of the geology of the district.

The veins on the Marget Ann property are enclosed within quartz monzonite, the principal host rock of the Butte district. The quartz monzonite at Butte, locally called the "Butte granite," is a part of the Boulder batholith which was emplaced in late Cretaceous or early Tertiary time. The quartz monzonite adjacent to the veins on the Marget Ann property has been highly altered. This alteration is typical of the alteration recognized by Sales and Meyer at Butte, i.e., an outer argillized zone and a sericitic zone immediately adjacent to the vein.

Four major veins have been recognized in the Marget Ann workings, namely, Northeast, North, Middle, and South veins. With the exception of the Northeast vein, the veins are essentially east-striking structures and are probably members of the Anaconda vein system, the most productive system in the district. These veins are shown on the 100-scale maps accompanying the application (copies of which are attached to this memorandum) and also on the 40-scale geologic maps of the 200, 300, and 400 levels which were prepared from 20-scale maps of the property the company had on file at the time of the examination. The reader is referred to these maps for the following discussion and also to the 40-scale geologic map of the 550 level which was prepared by the field examiners.

The Northeast vein has been explored only on the 200 level. The main workings along it are now inaccessible, and the following description has been prepared by interpreting the geologic maps. The Northeast vein has been recognized only north of the North vein. It follows a strong N. 45°-60° E.-striking, 60° NW.-dipping shear zone. The vein within the shear zone ranges in width from about a foot to several feet. The position of this vein to claim boundaries (see 100-scale map of 200 level) would indicate that the applicant would own only a small part of the vein under the apex law.

Both the North and Middle vein strike N. 80°-90° E. and dip 60°-75° N. Structurally the two veins are quite similar; both follow strong sheared and alteration zones. The veins within the sheared and altered zones average about 4 feet wide. In part, each vein pinches and swells in such a manner as to suggest postmineral adjustment along a system of interlacing faults within the vein zone that cause doubling and thinning of the vein along strike and dip. Quartz, rhodochrosite, a light-brown carbonate, argentite, and pyrite are the principal minerals that can be megascopically identified in both veins. Although rhodochrosite was positively identified, much of the pink manganese in the veins appeared to be an intimate mixture of rhodochrosite and fine-grained silica. The possibility also exists that some of the fine-grained material may be rhodonite. Locally, discontinuous sulfide bands, average width about 4 to 5 inches, occur on one or the other walls of the veins. The principal minerals identified in these bands were sphalerite,

galena, chalcopyrite, and pyrite. One difference between the two veins is that the ore values along the North vein are much more persistent than on the Middle vein; in fact, little stoping has been done on the Middle vein.

The South vein strikes N. 70°-80° E.; in the upper levels it dips 60°-75° N., but on the 550 level it steepens in dip to about 80°-85° N., and in places some strands of it even dip steeply to the south. The vein is exceptionally strong, and for the most part in the upper levels it is 10 to 15 feet wide. Present information indicates that besides steepening in dip between the 400 and 550 levels the vein also splits into several strands which on the 550 level are recognized over a width of about 60 feet. On the 550 level the main strand is about 10 feet wide, but it is essentially a barren quartz vein, as is the south strand of the vein which splits off the main strand near the shaft (see 40-scale map of 550 level). The most important strand of the South vein on the 550 level appears to be about 30 feet north or in the hanging wall of the main strand. At the time of the January 29, 1955, inspection about 160 feet of drifting had been completed on this strand of the vein. This drifting shows the strike of the strand to be about parallel to the main strand but its dip to be slightly steeper. It ranges in width from less than a foot to over 5 feet and follows a strong sheared and altered zone. The mineralogy of the north strand of the South vein is similar to that of the North and Middle veins. A strong sulfide band, ranging in width from 5 to 11 inches, follows the south wall of the vein for most of the distance it has been drifted along on the 550 level. This band on the 550 level constitutes the best lead-zinc showing in the mine. Four samples were taken across the vein on the level and are tabulated on the next page.

| Sample No. | Location | Remarks | Width (feet) | % Au | % Ag | % Pb | % Zn | % Cu | % Mn |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 550 level, 27' west of north crosscut | South wall sulfide band | 0.5 | 0.08 | 17.0 | 11.7 | 14.5 | 0.78 | 1.13 |
| 2 | do. | Vein, excluding sulfide band | 3.4 | 0.42 | 22.5 | <0.02 | 0.41 | 0.16 | 6.75 |
| | Weighted average--Samples No. 1 & 2 | | 3.9 | 0.38 | 21.8 | 1.5 | 2.2 | 0.24 | 6.03 |
| 3 | 550 level, 30' east of north crosscut | South wall sulfide band | 0.6 | 0.15 | 9.2 | 10.3 | 7.45 | 0.43 | 2.25 |
| 4 | do. | Vein, excluding sulfide band | 4.3 | 0.01 | 0.4 | 0.29 | 0.57 | 0.17 | 9.30 |
| | Weighted average--Samples No. 3 and 4 | | 4.9 | 0.03 | 1.5 | 1.5 | 1.41 | 0.20 | 8.40 |

MAY 15 1958

The 100-scale maps and section accompanying the application show a large fault crossing the property. The fault, as shown on these maps, strikes N. 45° E. and dips 45° NW. Detailed information on this fault is rather obscure; the ground, where it is shown crossing the workings on the 100-scale maps, is now heavily timbered or caved. Detailed geologic maps of the mine, however, fail to show a fault as shown on the 100-scale maps or show it as a rather insignificant structure (see 40-scale maps of 200, 300, and 400 levels). Gross structural relations, a few observations, and the existence of heavy ground lends credence, however, to the presence of a large fault approximately as shown on the 100-scale maps. The direction of movement along the fault is open to some question. The applicant indicates a southwest movement on the fault of the northwest block relative to the southeast block. This indicated movement is reported to coincide with the movement on a fault structure known to exist southwest of the property which the applicant believes correlates with the cross fault on the Marget Ann claim. A diamond drill hole drilled northeast near the face of the 400-level east drift failed to find the faulted extension of the North vein in the northeast fault block. This hole, however, may not have been drilled far enough at a great enough angle from the fault to conclusively show whether or not the applicant is correct as to the direction of movement. It would be well to point out that there is also some evidence to suggest that movement may be opposite to that indicated by the applicant and that the North and Middle veins may represent faulted segments of the same vein. Evidence favoring this interpretation includes the fact that on individual levels only two veins have ever been identified on the same side of the fault, and the strong similarity in the North and Middle vein structures indicates that they may be the same structure. In any event another diamond drill hole drilled northeast near the face of the 400-level east drift would add much to a better understanding of this fault problem and could well solve it. This problem is not only important from the standpoint of the number of veins present and where to conduct exploration for them but also has a bearing as to the applicant's rights to certain veins under the apex law.

The Marget Ann property is in the peripheral zone of the district, and in the past its ores have been valued for their precious metal content. Although Butte has long been recognized as a classic example of mineral zoning, there is little published information or data in our files on the details of zoning in the northern part of the district. We, therefore, wrote W. S. March, Jr., associate director of the Montana Bureau of Mines and Geology, to see what information he might supply on zoning in the northern part of the district. A copy of our letter of November 30, 1954 to March and his reply dated December 15, 1954, is appended to this memorandum. March himself could supply little information, but he did contact Murl Gidel of the Anaconda Copper Mining Company in regards to it. To quote March:

"According to Murl, the only change in these mines [Alice and Lexington mines in northern part of Butte district but south of Marget Ann property] was a slight increase in zinc in the Alice veins from the 500 to the 1000 foot level and they became more siliceous. Furthermore, he thinks chances are remote that the base metal and manganese content of Marget Ann veins will show any appreciable change in the next 200 feet."

As previously reported, most of the galena and sphalerite in the Marget Ann veins occurs locally in narrow discontinuous sulfide bands on either wall of the veins. The impression was gained during the examination that the lead-zinc content of the veins was gradually increasing with depth as the sulfide bands appeared to be more persistent and slightly wider on each succeeding deeper level. It is regrettable, however, that company production records are not detailed enough to identify source or even the level that most individual ore lots came from for such information would give a much better understanding of the rate of increase of the base-metal content of the ores with depth.

Work on the South vein on the 550 level appears to have uncovered the best lead-zinc showing in the mine. It has been since this showing was encountered that the company installed the second flotation circuit in the mill. At the time of the January 31, 1955, examination the company supplied the data on mill heads since the mill was placed in operation in July 1954 which is on the next page.

| Lot No. | Period 1954 | Tons | Oz. Au | Oz. Ag | % Cu | % Pb | % Zn | Source |
|---|---|---|---|---|---|---|---|---|
| A | 7/ 8 - 8/ 4 | 941.4 | 0.095 | 9.28 | | 0.44 | | Mostly 300- and 400-level development ore, some 200 level. |
| B | 8/ 4 - 9/13 | 1,016.9 | 0.152 | 15.95 | | 0.59 | | Select 200-, 300-, and 400-level ore. |
| C | 9/13 - 10/ 2 | 704.0 | 0.093 | 11.16 | | 0.76 | | Leaser 200-, 300-, and 400-level ore. One dump lot milled with C but not included with figures. |
| D2-18 (excluding Lot 17) | 10/ 9 - 11/26 | 1,395.78 | 0.25 | 17.49 | | 0.66 | | Leaser 200-300-400; some 500 level. |
| D-17 | 11/27 - 12/ 4 | 407.65 | 0.092 | 8.29 | 0.26 | 1.80 | 3.52 | 500 level north strand of South vein. |
| E | No record | | | | | | | |
| F | 1/19/55 | 203.90 | 0.134 | 12.67 | | 1.55 | 4.88 | 500 level north strand of South vein. |

It is of interest to note that mill lots D-17 and F, which represent production from 550-level workings along the north strand of the South vein, contain, respectively, 5.3 percent and 6.4 percent combined lead and zinc. This is about double the combined lead-zinc content indicated by over-all production records. At the time of the January 30, 1955, examination Mr. Seideman, mine manager, contended that mill lots D-17 and F definitely showed that the mine must now be considered as a first rate base- and precious-metal property instead of a precious-metal mine containing minor values in lead and zinc as previous production records would indicate. The authors consider this interpretation to be erroneous. Admittedly, the lead-zinc showings along the north strand of the South vein on the 550 level appears to be the best in the mine. This showing, however, is not a great deal different than the better showings on the other levels except that the sulfide band is more persistent and slightly wider on the 550 level. The lead-zinc content of the ore in the vicinity of the better showing on the upper levels may be only slightly lower than that on the 550 level as on the upper level much of the vein does not contain visible lead and zinc and to maintain an average of 3 percent combined lead and zinc ore from these areas would have to be comparable to that found on the 550 level.

Considering these matters and the limited amount of work on the 550 level, it appears reasonable to assume that the lead-zinc showing on the 550 level is an expression of a local condition similar to but slightly higher grade than that which exists in the upper level. Exploration on this level will undoubtedly locate other small areas along the veins that carry 5.0 to 6.0 percent combined lead and zinc in combination with gold and silver, but this is the best that can be expected. Most of the ore on this level will probably be valued for its precious metal value and at best the average lead-zinc content may be only a few tenths of a percent higher than the approximately 3.0 percent indicated by past production records.

## Applicant's Proposal

The applicant proposes to explore the North, South, and Middle veins on the 550 level of the mine. The program, as proposed, entails 370 feet of crosscutting to cut the veins, 800 feet of drifting on each the South and Middle vein, 300 feet of drifting on the North vein, and 172 feet of raising on each of the veins. On completion of this program the applicant proposes to sink the shaft an additional 180 feet, but no funds are requested for any work off the bottom of the shaft once it is sunk. Funds are also requested to construct a new headframe and rehabilitate an air raise between the 200 level and the surface.

## Evaluation of Property and Applicant's Proposal

The Marget Ann property is considered an excellent precious-metal prospect from which some by-product lead and zinc may be recovered. Exploration on the 550 level, as proposed by the applicant, will undoubtedly find additional ore. Present information indicates that a small percentage of this ore on this level will carry 5.0 to 6.0 percent combined lead and zinc but that the over-all grade of ore from the level will carry only about 3.0 percent combined lead and zinc. This is not considered sufficient to justify DMEA participation in exploration at this level.

There is little information available as to the zoning in the northern part of the Butte district, but a slight increase in the amount of the zinc in the ore can be expected with depth. Although slight, it is apparent that the lead-zinc content of the Marget Ann veins is increasing with depth. Company records are such, however, that it is not possible to calculate this increase; nevertheless, the gradual increase is intriguing in that at some deeper level the lead-zinc content of the vein may be sufficient to justify DMEA participation in exploration. But at what level? On the basis of present available information any level picked would be arbitrary. The authors would suggest at least the 1000 level. Admittedly, the lead-zinc content of the veins on this level may not be a great deal larger than on the 550 level, but it is believed that exploration to test the possibilities at this depth would be warranted. Even if such a program failed to show any improvement in the lead-zinc with depth, there is a good chance of the DMEA recovering the value of the loan from precious-metal production.

Because a large percentage of the pink manganese in the Marget Ann vein appears to be intimately associated with silica or may even be rhodonite, it appears to be of little interest at present as a possible by-product. Although some test work has been done by the applicant in an attempt to recover the manganese, any concentrate made has been low grade, and it appears that it may not be economically feasible to try and recover the manganese. Before manganese is even considered as one of the minerals to be explored for, the applicant should present evidence that it is economically feasible to recover it in the ore now being treated.

Although the possibilities of a deep-level program have been discussed with Mr. Seideman, there is much doubt in the minds of the authors if the company is capable of undertaking such a program, and even if capable, whether it would be wise to undertake the program at the present time. A study of the maps will show that only a small area in the immediate vicinity of the Marget Ann shaft has been explored. From

purely an economic standpoint the company would be well advised to conduct much more lateral exploration off the individual level for precious-metal ore before considering a deep-level program, in an attempt to develop the base-metal possibilities of the mine. Even though the company controls one claim, there is a great deal of ground within the confines of this claim that could be tested.

Even at the present depth of development many of the mine workings are outside the side lines of the Marget Ann claim. The applicant claims rights to the vein he proposes to explore under the apex law. However, the applicant would be well advised to protect himself by obtaining additional ground, particularly in view of the fact that the direction of movement along the large cross fault is open to question and that movement along it would affect the apex of individual veins. In considering any deep-level program for the property, it is obvious that the applicant should control more than one claim before the DMEA could consider participating in such a program. As previously reported, this matter was discussed with Mr. Seideman, and he was of the opinion that additional claims might be obtained.

## Conclusion

The Marget Ann property is considered a worthwhile silver-gold prospect from which some by-product lead and zinc may be recovered. Exploration on the 550 level, as proposed by the applicant, will undoubtedly find additional ore. The lead-zinc content of this ore can at best be expected to carry only a few tenths of a percent more lead-zinc than ore previously mined or around 3.0 percent combined. This, however, is not considered sufficient to justify DMEA participation in exploration.

A gradual increase in the lead-zinc content of the veins has been noted from the 200 to the 550 levels. For this reason exploration at a deeper level for lead-zinc may be justified. On the basis of present available information any level picked would be arbitrary. The authors would suggest at least the 1000 level. Admittedly, the lead-zinc content of the veins on this level may not be a great deal higher than that on the 550 level, but it is believed that exploration to test the possibilities at this depth would be warranted.

Although manganese is present in the Marget Ann vein, it is in such a form to be of little economic interest. For this reason it should not be considered as one of the metals to be explored.

Before the Government can consider participating in any program on the property, there are several legal questions that will have to be clarified:

(1) The applicant's present lease and option agreement on the property expires in February 1956. Any worthwhile program to test the lead-zinc possibilities could not be completed before the lease expires. When the application was presented at this office in October 1954, the applicant reported that he hoped to exercise his option to purchase the property by completing payment for it by the time the present lease expires. It appears likely that this can be accomplished, but it is not certain. The applicant was advised at the time the application was presented that it would be necessary for him to get an extension of the lease to cover the exploration period and also, if possible, to cover the repayment period. To our knowledge the applicant has not been able to get the lease extended.

(2) The applicant reports that the owners of the Marget Ann claim are unwilling to sign an Owner's Consent to Lien agreement. Should the applicant exercise the option to purchase the property, this matter would be taken care of.

(3) If exploration on a deep level is to be considered, more than one claim should be included in the contract.

It has been approximately 6 months since the application was received, and the applicant informed that the DMEA could not participate in a program until certain legal matters were attended to. It has been about 3 months since the applicant was informed that before the DMEA would probably even consider a deep-level program additional claims should be obtained. Although it is known that the applicant is trying to comply with these requests, no evidence has be presented that he will (or be about to) succeed. Under the circumstances it appears that it would be best to deny the present application on legal grounds and also on the grounds that exploration for lead-zinc at the level proposed is not considered warranted. Should the applicant succeed in arranging legal matters to the satisfaction of DMEA and also obtain additional land, serious consideration could be given to a second application for deep-level work.

Enclosures
Distribution:
DMEA(4)
USBM(2)
USGS(SRO)
Docket
Vhay
Quinlan

COPY OF A COPY

So. 157 Howard Street
Spokane 4, Washington

November 30, 1954

Mr. Walter March, Director
Montana State Bureau of Mines and Geology
Butte, Montana

Dear Walter:

The Mitchell Mining Company has submitted an application for DMEA assistance to explore the Marget Ann property in the northern part of the Butte district.

This application presents somewhat of a problem for us in that to the present depth of mine development the ore has been valued for its silver content, although it does contain small amounts of manganese, zinc, lead, and copper. However, the amounts of manganese, zinc, lead, and copper in present ore from the mine does not appear to be sufficient to interest the DMEA.

We have very little information in our files regarding whether or not we can expect an increase in the base metal content of the vein with depth and if so at what depth this change is likely to occur. We would appreciate any information you might be able to supply in regards to this problem. In particular any change that is known in the character of the veins in the Lexington and Alice mines.

Sincerely yours,

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Re: DMEA application (lead-zinc-manganese-copper)
Mitchell Mining Co., Inc.
Marget Ann claims
Silver Bow County, Montana

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COPY
DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAY 19 1958

MONTANA BUREAU OF MINES AND GEOLOGY

MONTANA SCHOOL OF MINES

BUTTE, MONTANA

December 15, 1954

Mr. A. E. Weissenborn
Executive Officer, DMEA
So. 157 Howard Street
Spokane 4, Washington

Dear Al:

This is in answer to your letter of November 30 about the possibility of an increase in depth in the base metal and manganese content of the veins of the Marget Ann mine, Butte district, Montana.

The only information I have on this problem is that the base metal and manganese content of the ore mined has not changed materially in the last two years. As for mineralization changes in the Alice and Lexington mines in depth, I called Murl Gidel for this information.

According to Murl, the only change in these mines was a slight increase in zinc in the Alice veins from the 500 to the 1000 foot level and they became more siliceous. Furthermore, he thinks changes are remote that the base metal and manganese content of Marget Ann veins will show any appreciable change in the next 200 feet.

Personally, the mineral potentialities of this part of the Butte district intrigue me, but whether they are a justifiable DMEA project is another question.

Let me know if there is any other information I can get you.

Best regards.

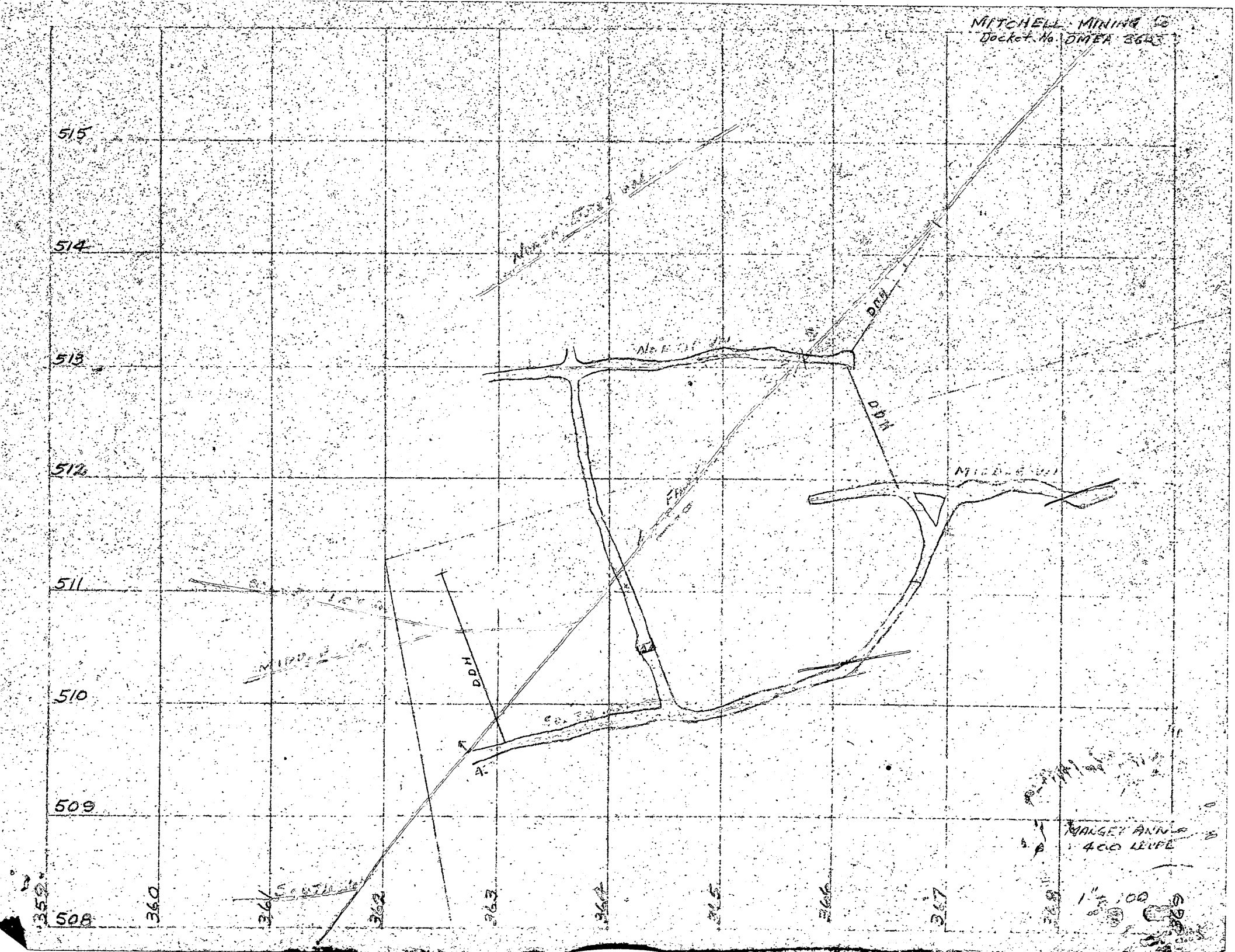
Sincerely,

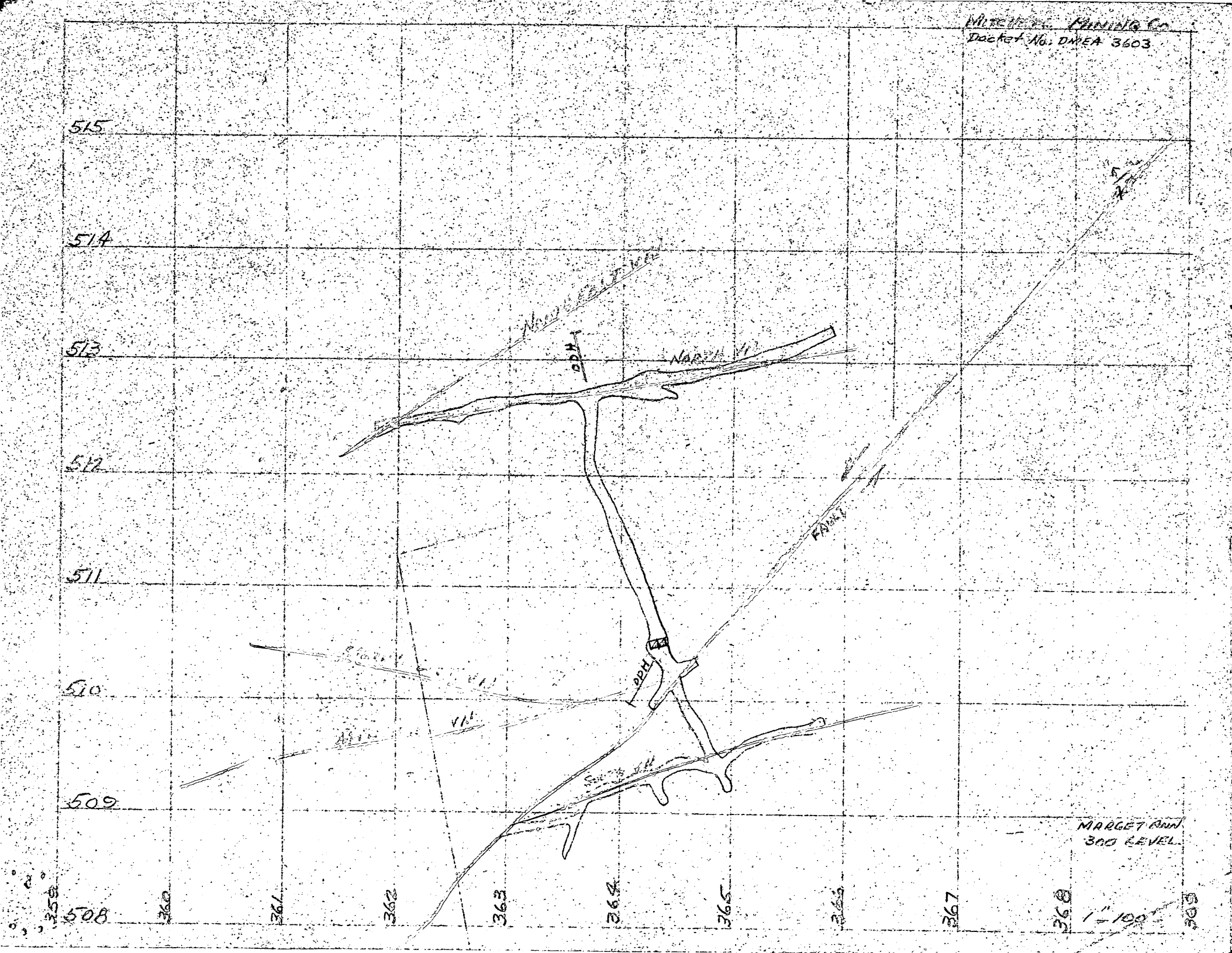
/s/ WALTER, JR.
W. S. MARCH, JR.
Assoc. Director

WSM:iw

DATE STAMPED:
RECEIVED
DEC 20 1954
U.S.G.S.
SPOKANE, WASH.

MITCHELL MINING CO
Docket No. DMEA 3602




Docket No. DMEA 3603
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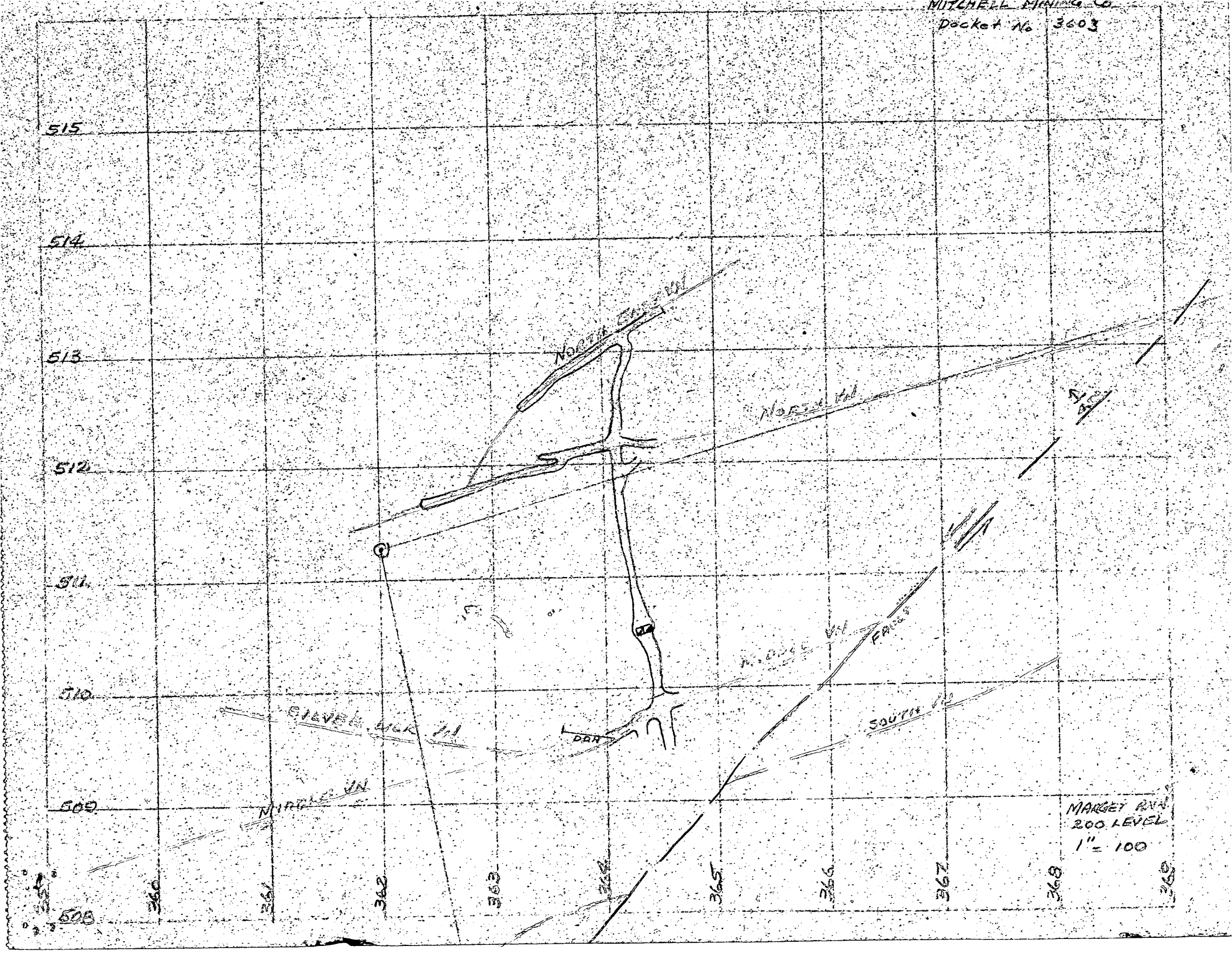
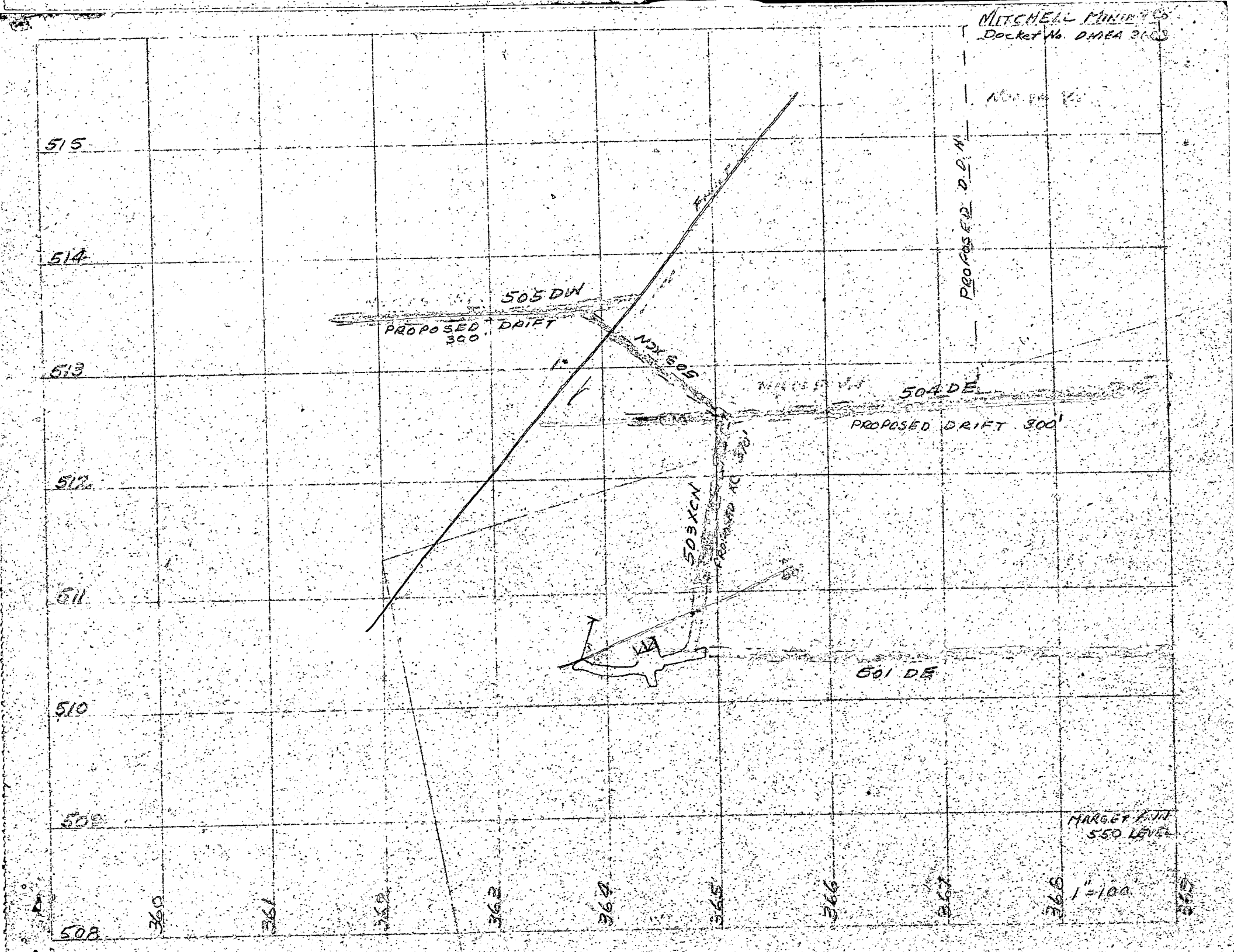
1" = 100'
MARGET ANN
300 LEVEL

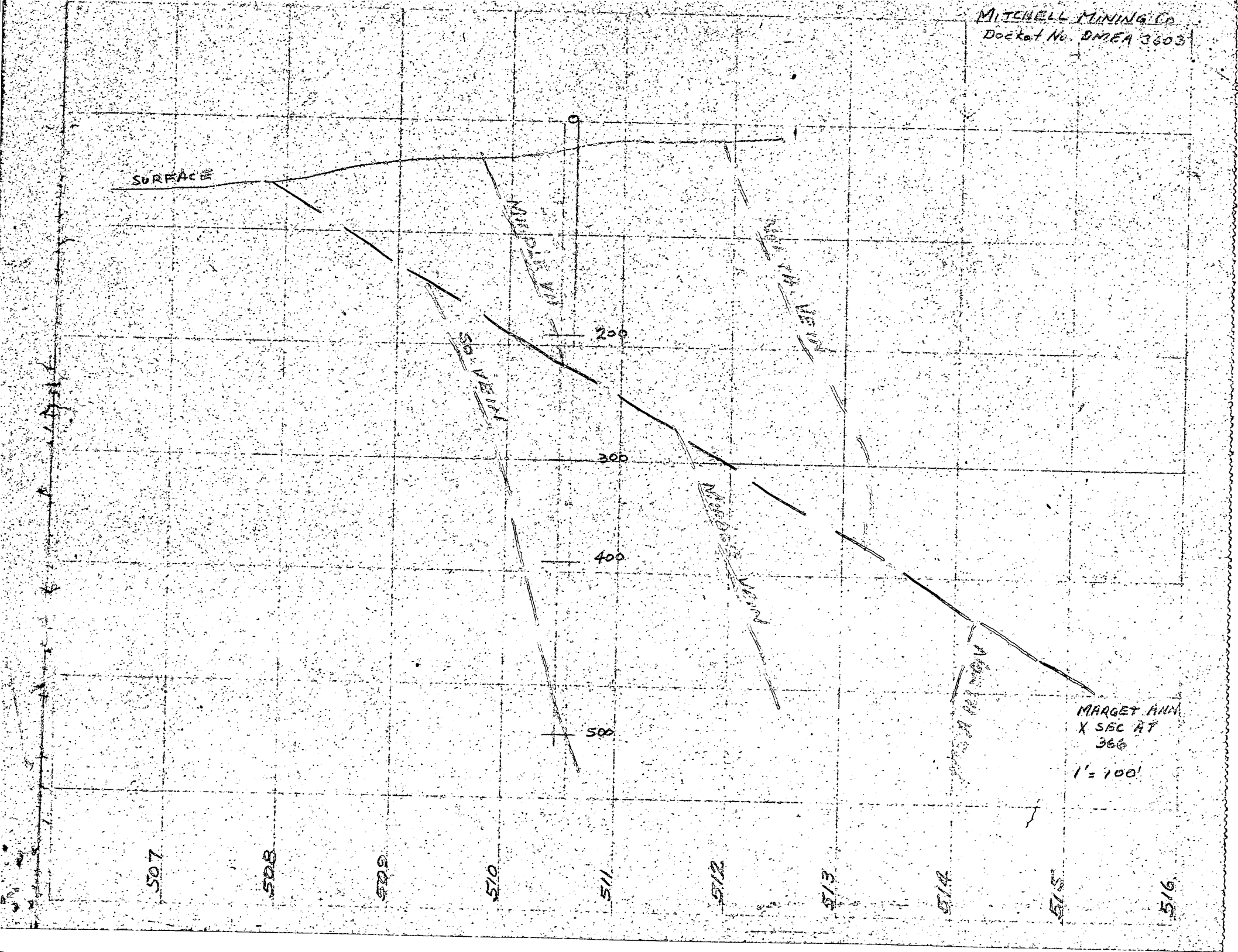
MITCHELL MINING CO.
Docket No 3603



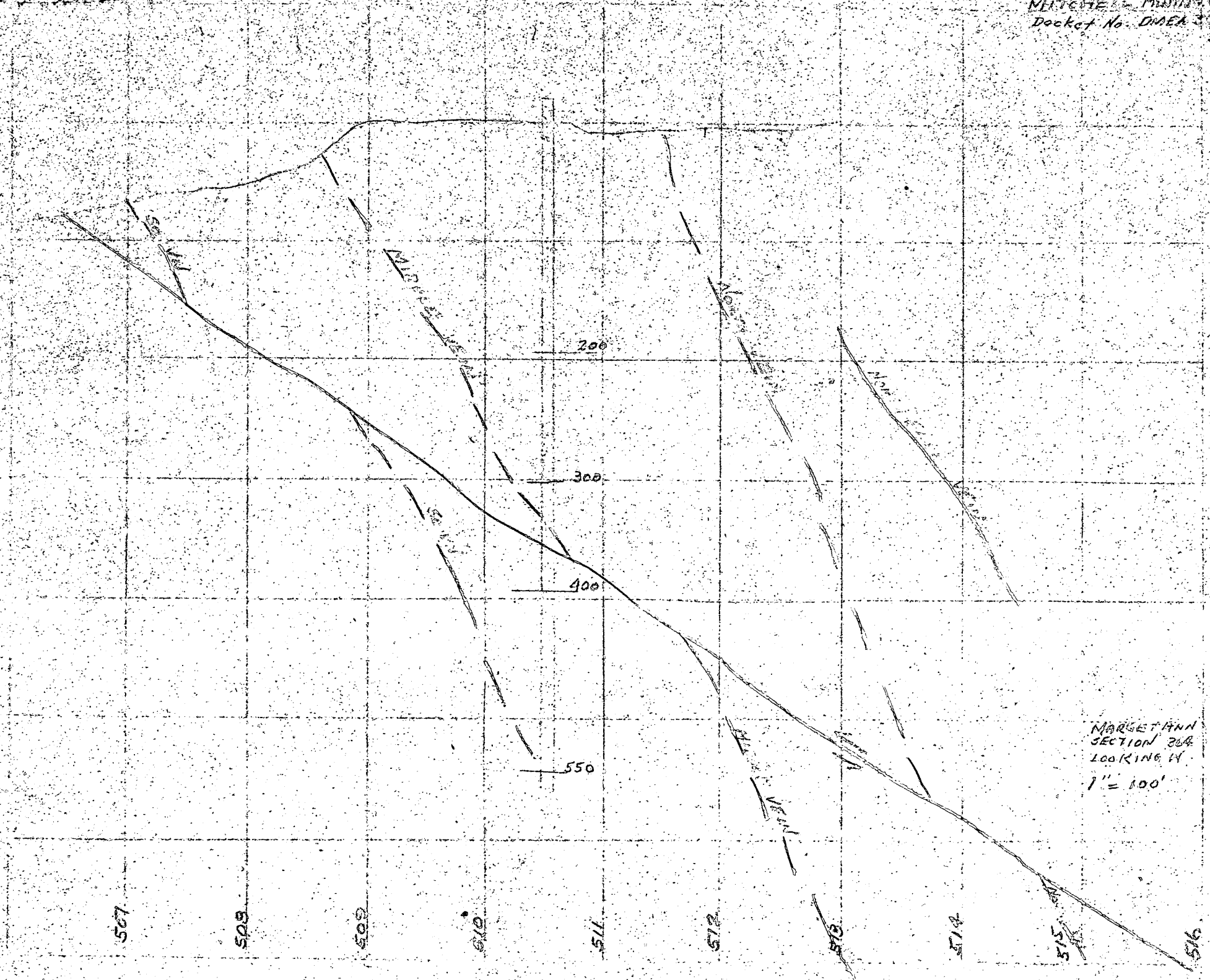
MITCHELL MINING CO.
Docket No. DMEA 3[illegible]

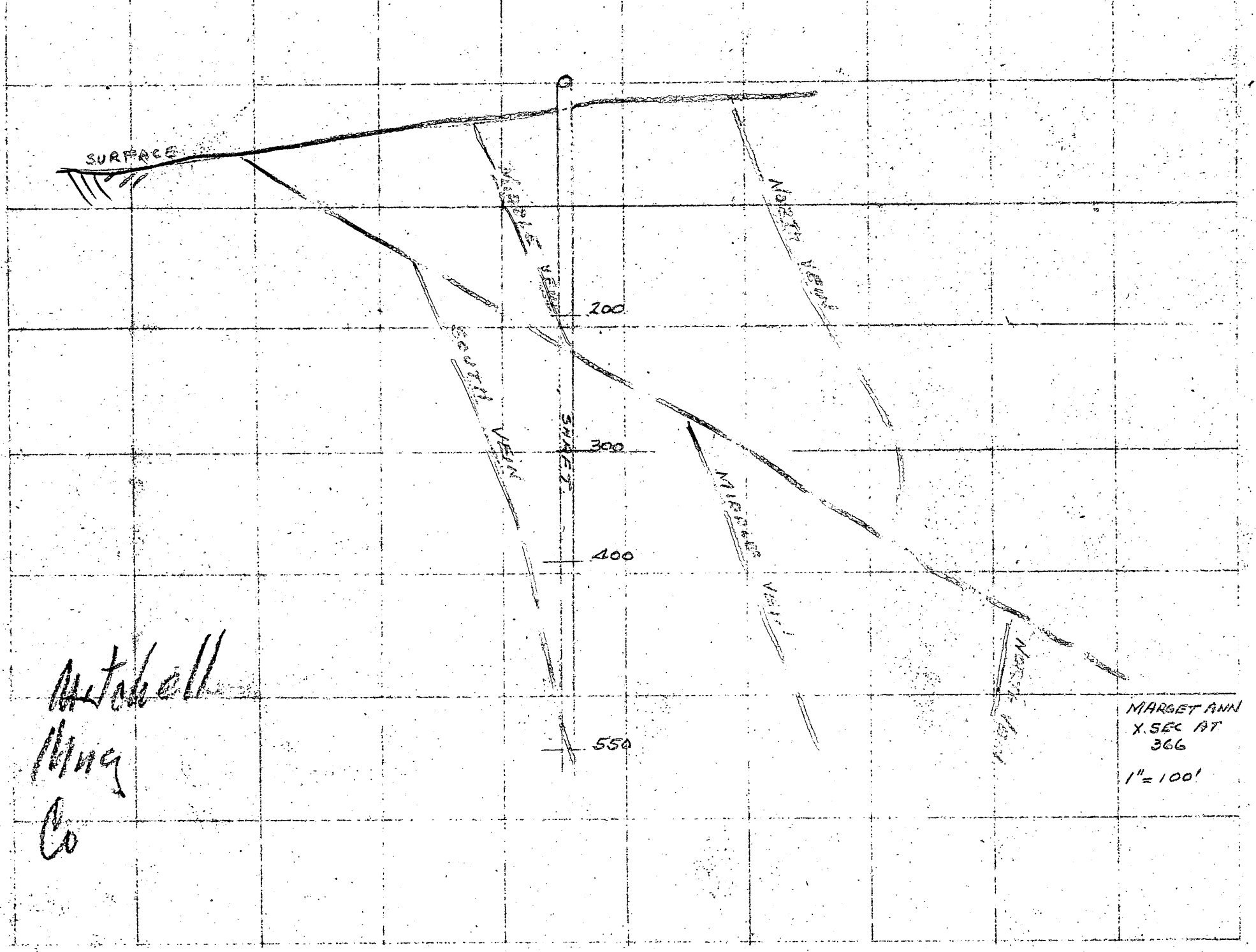


MITCHELL MINING CO.
Docket No. DMEA 3603



MITCHELL MINING CO
Docket No. DMEA 3-03



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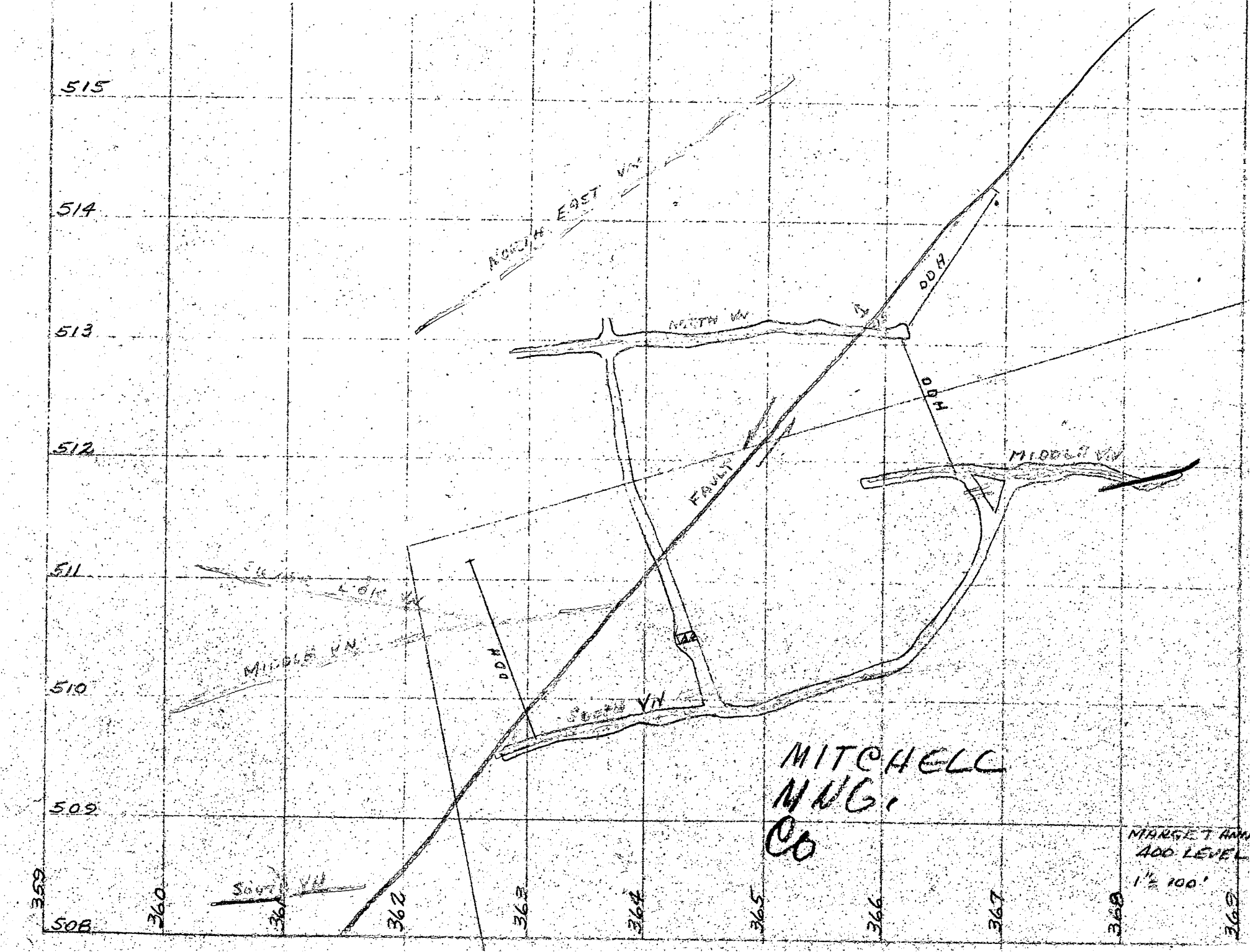
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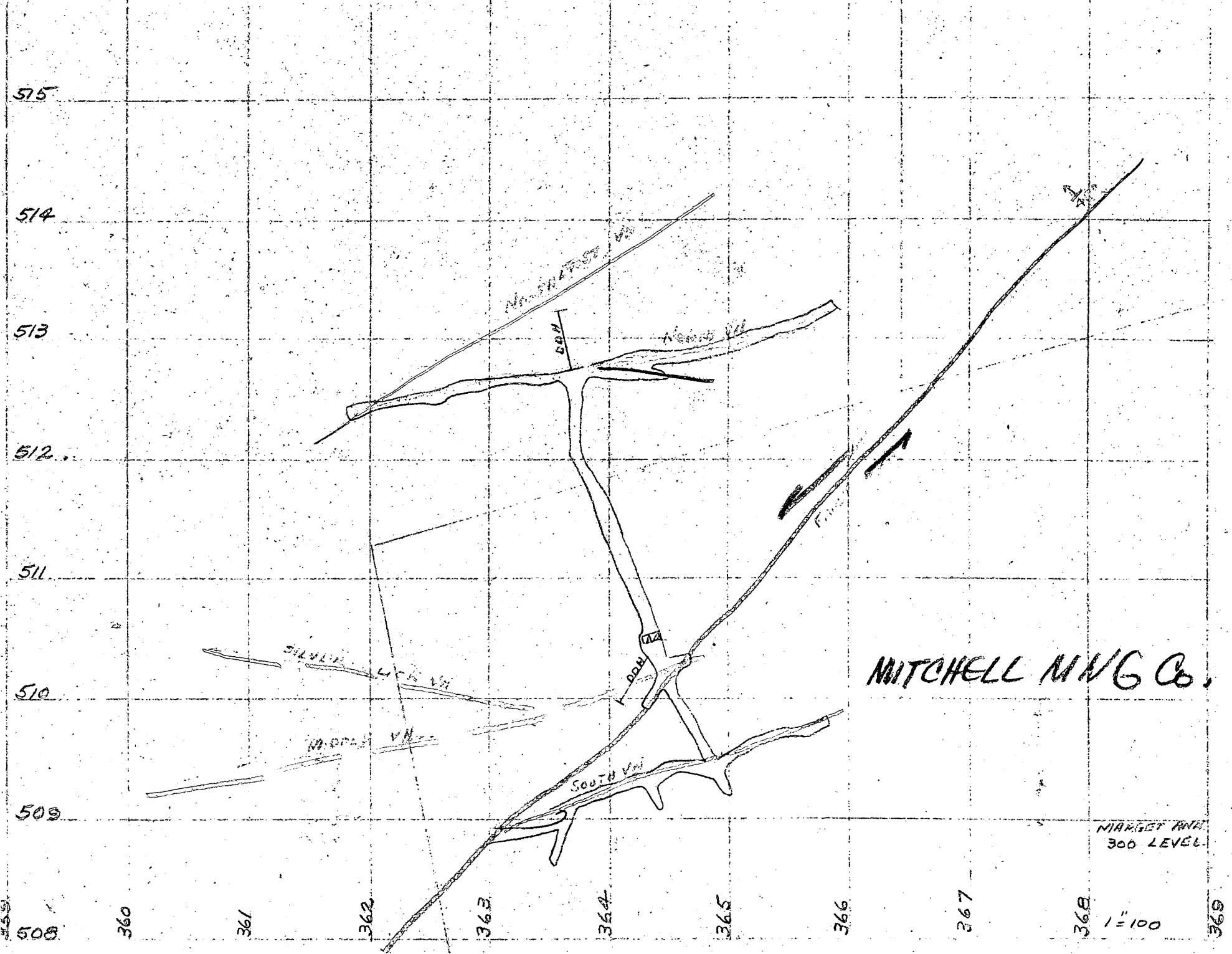
MARGET RAM
400 LEVEL
1" = 100'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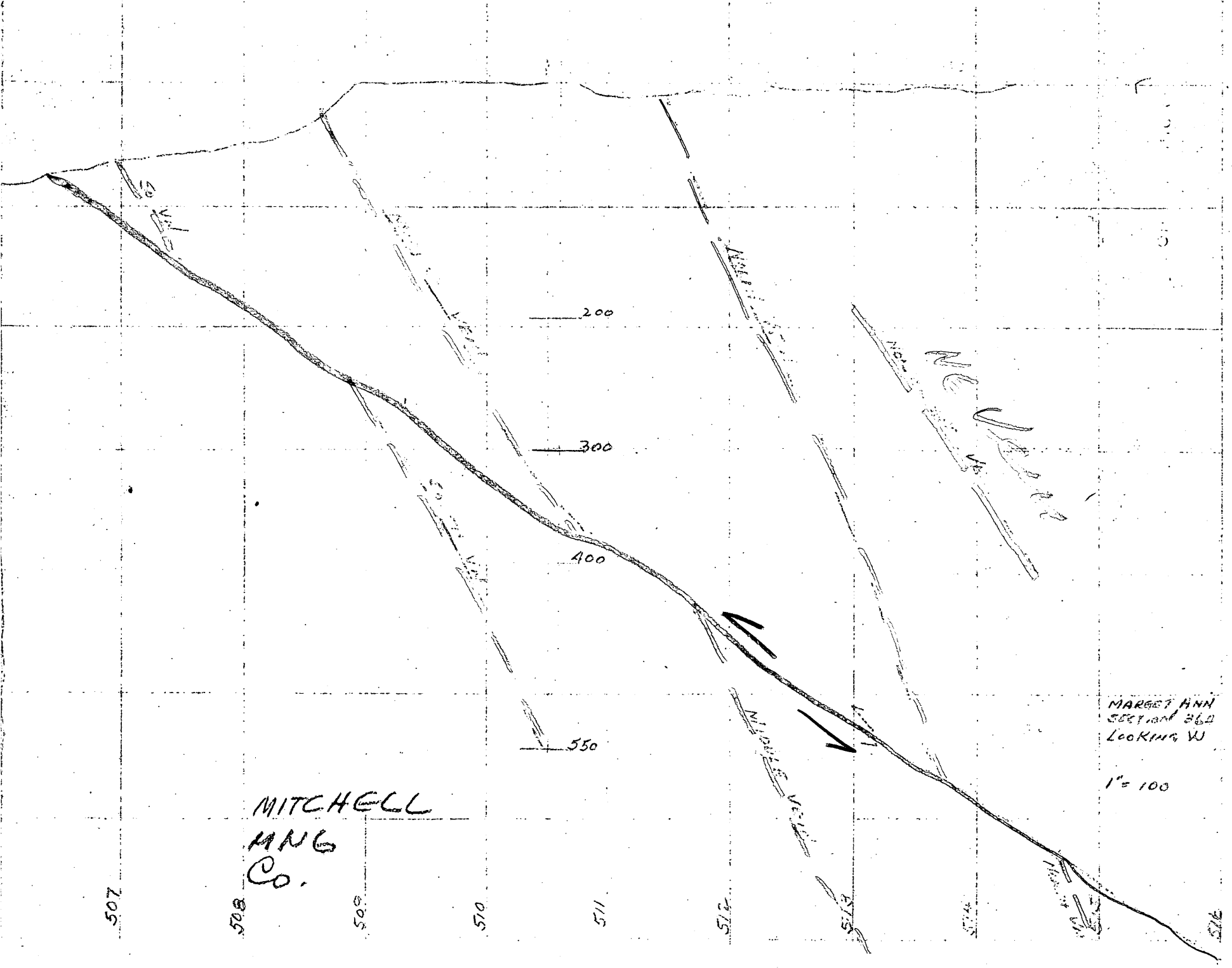
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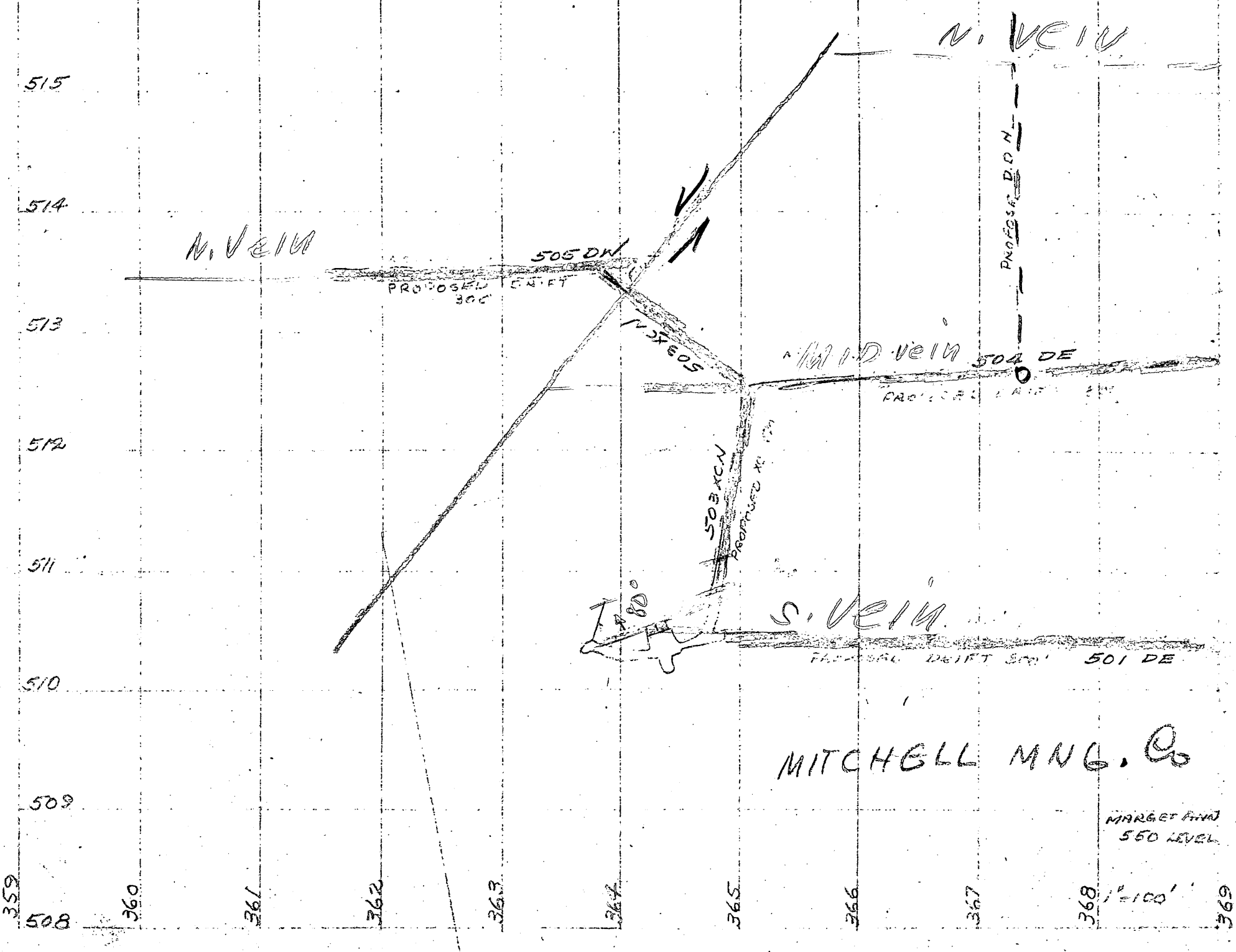
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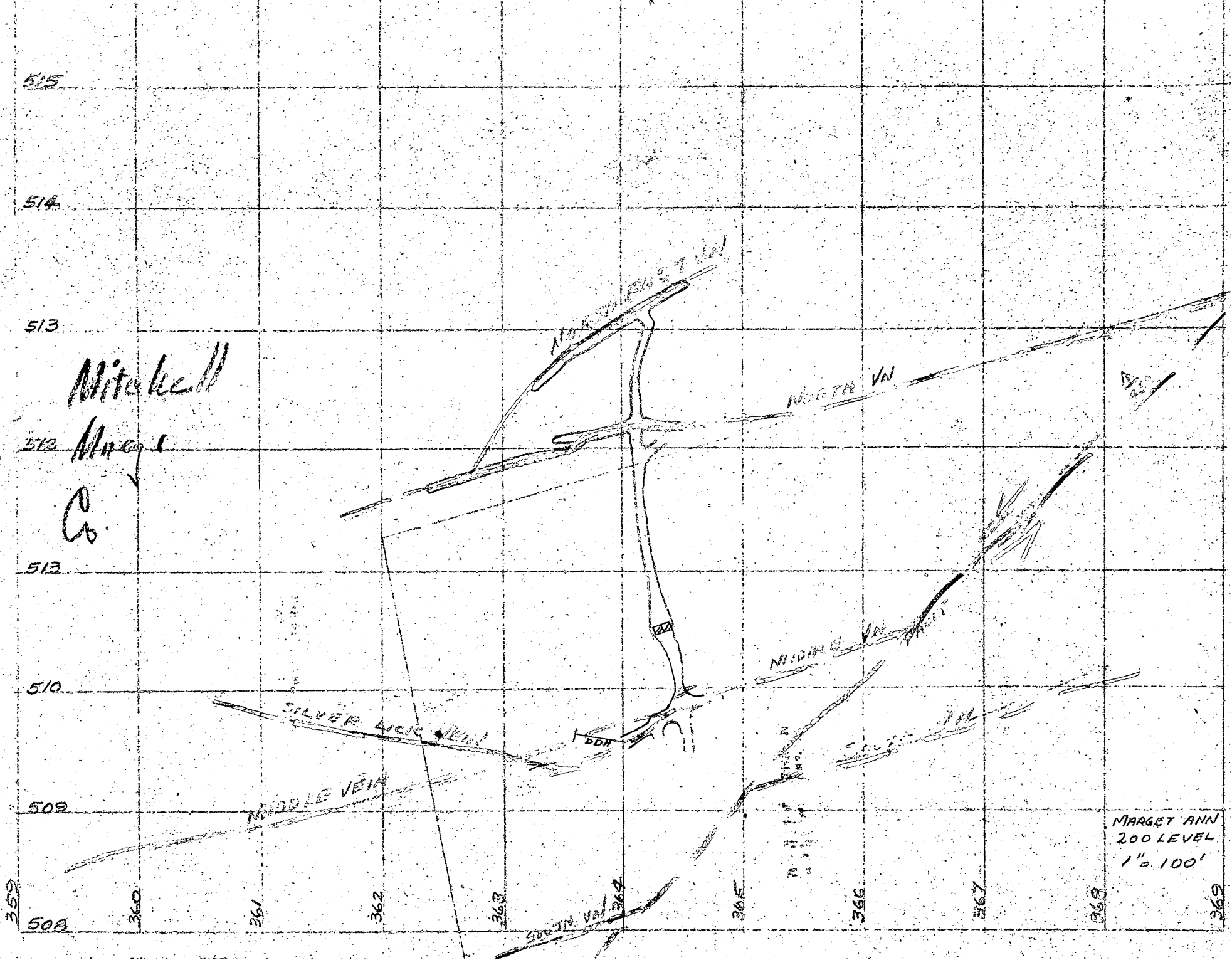
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Mitchell
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NORTH VN
MIDDLE VEIN
SILVER LEDGE VEIN
DDH
MIDDLE VEIN
SOUTH VEIN
MARGET ANN
200 LEVEL
1" = 100'

| 6(a) | | | | |
|---|---|---|---|---|
| | | | | #8763 |
| 4 DOZ. | PICKS | | 22.87 | 91.63 |
| 3 DOZ. | AX HANDLES | | 14.24 | 42.72 |
| 3 DOZ. | PICK " | | 12.90 | 38.70 |
| 8 DOZ. | SHOVELS | | 34.00 | 272.00 |
| 4 EA. | CARBORUNDUM HONE KNIVES | | 2.90 | 11.60 |
| 3 EA. | DIAMOND DRILL BITS | | 110.00 | 330.00 |
| | ROD | | 320.00 | 320.00 |
| 12 EA. | FILES | | .75 | 9.00 |
| 18 MO | ASSAYING | | 100.00 | 1800.00 |
| 160 EA | 3/4 HANGING ROD | | 3.25 | 520.00 |
| 2 KG. | WASHERS | | 21.60 | 43.20 |
| 700' | 3 CONDUCTOR ELECTRIC CABLE 150 AMP | | 1.69 | 1183.00 |
| 3 EA. | SWITCH 60 AMP | | 52.80 | 158.40 |
| 2 EA | SWITCH BOX | | 19.25 | 38.50 |
| 6 EA. | PULLEYS | | 20.00 | 120.00 |
| 3 EA. | HORNS | | 5.75 | 17.25 |
| 1 EA. | MAGNETIC SWITCH 50 HP | | 192.76 | 192.76 |
| | TIMBER | | | |
| 14370 | 8x8 | | | |
| 12300 | LAG 2" | | | |
| 13200 | LAG | | | |
| 3960 | 8x8 | | | |
| 6600 | 8x8 | | | |
| 3107 | 8x8 | | | |
| 1536 | 8x8 | | | |
| 3762 | 4x8 | | | |
| 8853 | STULL | | | |
| 19000 | LAG 3" | | | |
| 97,138 M | | | 65.00 | 6313.97 |
| 200 | PIPE COUPLINGS 2" | | 1.19 | 376.20 |
| 70 | " " 3" | | 1.66 | 116.20 |
| 24 | T's 2" | | 2.11 | 50.64 |
| | | | | 4,202.090 |
| | | | | 1,271.313 |
| | | | | 1,204.482 |
| | | | | 6,677.885 |

| 6(d) | | 6(e) |
|---|---|---|
| 1 1½ MRV PUMP. | 40.00 | NONE |
| 1 2 MRV " | 60.00 | |
| 1 12B LOADER | 160.00 | |
| 1 JOY LOADER | 160.00 | |
| 1 JOY COMP 365 A3 | 420.00 | |
| 1 " " 365 A3 | 420.00 | |
| 1 AIR TRAMMER. | 175.00 | |
| 1 JACK LEG DRILL | 60.00 | |
| 1 JACK LEG DRILL | 60.00 | |
| 1 STOPER DRILL | 60.00 | |
| 1 STOPER DRILL | 60.00 | |
| 1 STOPER DRILL | 60.00 | |
| 15 ORE CARS 10.00 | 150.00 | |
| 1 TUGGER HOIST | 45.00 | |
| 26 CAP LAMPS | 55.00 | |
| 1 HOIST | 250.00 | |
| 1 DUMP TRUCK | 200.00 | |
| 1 BLACKSMITH SHOP | 60.00 | |
| 1 JOY FAN | 50.00 | |
| 1 10 H.P FAN | 50.00 | |
| 1 SINKER HOIST | 100.00 | |
| 1 JET SINKING PUMP. | 30.00 | |
| 2 AIR RECEIVERS | 10.00 | |
| 1 DODGE PICKUP | 108.00 | |
| 1 TUGGER HOIST. | 45.00 | |
| 1 DIAMOND DRILL 200' ROD | 200' FT | |
| | | * NOTING DIAMOND DRILL |
| | 2688.00 | |

| 6(f) | 6(g) | 6(h) |
|---|---|---|
| ORE BIN + HEADFRAME HARDWARE + CONCRETE 3095.90 | 10.19% | 10% |
| 309590 | | |

230,757.55

6 ESTIMATE OF COSTS

## 6(a) INDEPENDENT CONTRACTORS

| | | BR | SH | T | | |
|---|---|---|---|---|---|---|
| 370' | CROSS CUT (8X7) | | | | | |
| | 180' TIMBERED | 5.50 | 5.00 | 2.50 | 13.00 | 2343.60 |
| | 190 UNTIMBERED | 5.50 | 5.00 | | 10.50 | 1995.00 |
| | | | | | | 4338.60 |
| 1900' | DRIFT (8X7) | | | | | |
| | 800' DRIFT 501 DE | 5.00 | 5.00 | | 10.00 | 8400.00 |
| | 800 " 504 DE+N | 5.00 | 5.00 | | 10.00 | 8400.00 |
| | 300 " 505 DW. | 5.00 | 5.00 | | 10.00 | 3150.00 |
| | | | | | | 19950.00 |
| 516' | RAISE (13X7) | | | | | |
| | 172' RAISE | | 9.00 | 5.00 | 14.00 | 2408.00 |
| | 172' " | | 9.00 | 5.00 | 14.00 | 2408.00 |
| | 172' " | | 9.00 | 5.00 | 14.00 | 2408.00 |
| | | | | | | 7224.00 |
| 180' | SHAFT SINKING (13X7½) | | | | | |
| | | 20.00 | 25.00 | 10.00 | 65.00 | 11700.00 |
| | | | | | | 43212.60 |

## 6(b)

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|---|---|---|---|---|
| 1 | BLACKSMITH | 450 @ | 18.48 | 8460.00 |
| 1 | TIMBERFRAMER | 450 @ | 17.05 | 7672.50 |
| 2 | HOISTMEN | 450 @ | 18.48 | 8460.00 |
| | | 450 @ | 18.96 | 8532.00 |
| 2 | TOPMEN | 450 @ | 17.05 | 7672.50 |
| | | 450 @ | 17.53 | 7888.50 |
| 2 | MOTORMEN | 450 @ | 17.05 | 7672.50 |
| | | 450 @ | 17.53 | 7888.50 |
| 1 | SHIFT BOSS | 450 @ | 22.00 | 9900.00 |
| ½ | SUPT. | 225 @ | 26.00 | 5850.00 |
| ½ | ENG-GEOL. | 225 @ | 26.00 | 5850.00 |
| 1 | TIMEKEEPER | 450 @ | 20.00 | 9000.00 |
| 1 | MAR. | 18 Mo | | 10800.00 |
| 2 | SINKER HOISTMEN | 165 @ | 18.98 | 3131.70 |
| | | 165 @ | 19.46 | 3210.90 |
| | -- AIR SHAFT -- | | | |
| 2 | SHAFT MINERS | 128 @ | 18.00 | 2304.00 |
| 1 | TOPMAN | 60 @ | 17.05 | 1023.00 |
| | -- DIAMOND DRILL | | | |
| 1 | DIAMOND DRILL OPR. | 25 @ | 18.00 | 450.00 |
| | -- HEADFRAMES -- | | | |
| 2 | CARPENTERS | 60 @ | 23.21 | 1392.60 |
| 1 | HELPER | 30 @ | 17.05 | 511.50 |
| | | | | 117670.20 |

## 6(c)

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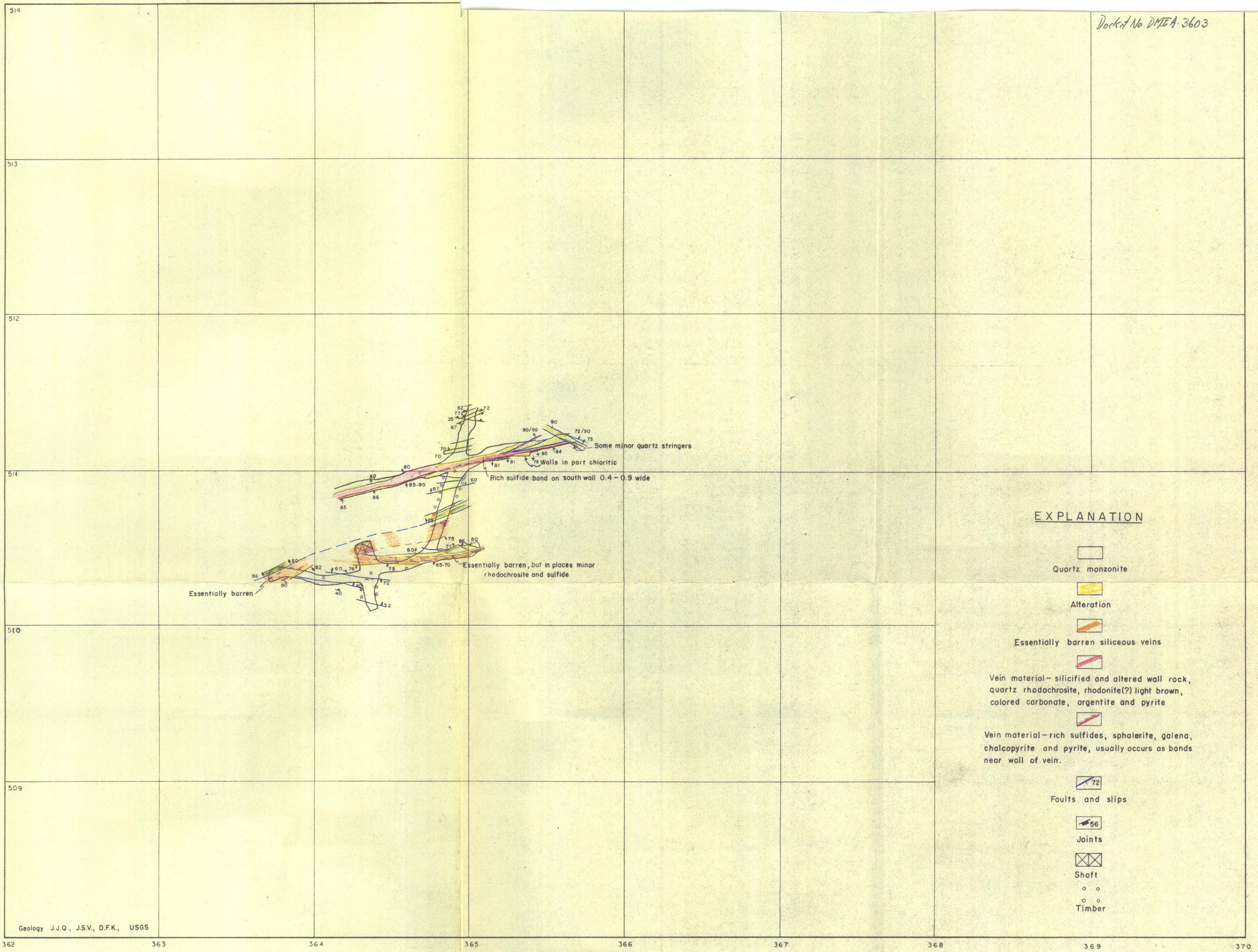
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | 42,020.90 |
| 12 | EA | AIR HOSES | 1" | 37.00 | 444.00 | | | | | | | | | |
| 12 | EA | WATER HOSE | 3/4 | 26.00 | 312.00 | | | | | STEEL | | | | |
| 2986' | | FAN BAG | 16" | 1.32 | 3941.52 | 40 | Rs | 30" | 1" | HEX | 7/8" | 520 | 135.00 | 13,713.13 |
| 3000' | | PIPE 2" | | .35 | 1050.00 | 60 | Rs | 48" | 1" | QO | | 641 | 208.00 | |
| 3000' | | " 1" | -100 | 18.75 | 562.50 | 80 | Rs | 66" | 1" | QO | | 761 | 384.60 | |
| 600' | | " 3" | | .80 | 480.00 | 56 | Rs | 84" | 1" | QO | | 961 | 608.80 | |
| | | | | | | | | | | | | | 538.16 | |
| | | | | | | | | | | | | 25% Reuse | 1739.54 | |
| | | | | | | | | | | | | | 1304.56 | |
| 12 | EA | WRENCHES | 14" | 2.89 | 34.68 | 53 | Rs | 4' | HEX | 7/8" | | 562 | 258.64 | |
| | | " | 18" | 4.40 | 52.80 | | | | | | | | | |
| 6 | EA. | " | 24" | 7.60 | 45.60 | 40 | Rs | 6' | " | 7/8" | | 700 | 420.00 | |
| 15 | EA | CER COUPLINGS | | 2.00 | 30.00 | | | | PIPE FITTINGS | | | | | |
| 6 | EA | GAUGE BARS | | 5.00 | 30.00 | 6 | EA | REDUCERS | | 2" | | 187 | 11.21 | |
| 800' | | BELL SIGNAL | | .12 | 96.00 | 24 | EA | TS | 3/4" | | | 23 | 5.52 | |
| 6 | EA. | SAWS | | 10.88 | 65.28 | 24 | EA | TS | 1" | | | 30 | 7.20 | |
| 30 | EA | PIPE HANGERS | 2" | 2.50 | 75.00 | 6 | EA | TS | 2" | | | 89 | 5.34 | |
| 40 | EA | " " | 1" | .70 | 28.00 | 6 | EA | TS | 3" | | | 210 | 12.60 | |
| 6 | EA | LUBRICATORS | | 21.20 | 127.20 | 24 | EA | 45° | 3/4 | | | 18 | 4.32 | |
| 2 | EA. | GIN POLES | | 7.50 | 15.00 | 24 | EA | " | 1" | | | 23 | 5.52 | |
| 6 | EA. | SNATCH BLOCKS | | 14.00 | 86.00 | 12 | EA | 90° | 3/4 | | | 16 | 1.92 | |
| 12 | EA. | CABLE CLAMP | 1/2 | .78 | 9.36 | 12 | EA | " | 1" | | | 20 | 2.40 | |
| 12 | EA | " " | 7/8 | .42 | 5.04 | 24 | EA | UNIONS | 3/4" | | | 55 | 13.20 | |
| 12 | EA | " " | 3/4 | .33 | 3.96 | 24 | EA | " | 1" | | | 72 | 17.28 | |
| 12 | EA | PINCH BARS | | 5.00 | 60.00 | 6 | EA | " | 2" | | | 153 | 9.18 | |
| 30 | EA | AXES | | 3.75 | 112.50 | 6 | EA | " | 3" | | | 510 | 30.60 | |
| 10 | EA. | STEEL WRENCH | | 1.75 | 17.50 | 48 | EA | COUPLINGS | 3/4" | | | 14 | 6.72 | |
| 891 | EA. | BITS | | 15.90 | 14157.00 | 300 | EA | " | 1" | | | 22 | 66.00 | |
| 245 | M | FUSE | | 12.30 | 3062.50 | 12 | EA | " | 2" | | | 51 | 6.12 | |
| 24 | TON | POWDER CUT. | | 22.00 | 1056.00 | 12 | EA | " | 3" | | | 127 | 15.24 | |
| 1342 | EA. | CAPS ELECT. | | 30.00 | 402.50 | 6 | EA | VALVES | 3/4" | | | 419 | 25.14 | |
| 17655 | EA | BLASTING CAPS | | .0229 | 406.08 | 6 | EA | " | 1" | | | 498 | 29.88 | |
| 6 | KG | NAILS | 70 | 11.10 | 66.60 | 3 | EA | " | 2" | | | 1209 | 36.27 | |
| 10 | KG | " | 60 | 11.05 | 110.50 | 3 | EA | " | 3" | | | 300.00 | 9.00 | |
| 6 | KG | " | 80 | 11.45 | 68.70 | 1600' | | WIRE ROPE | 7/16 | | | 1280 | 204.80 | |
| 20 | TON | RAILS 25# | | 210.00 | 4200.00 | 18 | Mo | ELECTRIC POWER | | | | 27000 | 5220.00 | |
| 6 | KG | BOLTS 25# CUT. | | 23.50 | 141.00 | 18 | Mo | FUEL | | | | 6000 | 1080.00 | |
| 347 | PR. | SPLICE BARS | | .55 | 188.10 | 18 | Mo | GASOLINE OIL-GREASE | | | | 12500 | 2250.00 | |
| 6 | CUT. | TRACK SPIKES | | 15.90 | 95.40 | 36 | EA | GRINDING WHL. | | | | 385 | 138.60 | |
| 1008' | | LAGGERS | | 4.00 | 400.00 | 1 | EA | HOSE CLAMPER | | | | 2195 | 21.95 | |
| 10 | BDL | LOADING STICK | | 15.51 | 155.51 | 6 | DOZ | " CLAMPS | | | | 180 | 10.80 | |
| 218 | DOZ. | WEDGES | | 1.24 | 270.32 | 36 | EA | SPADS | 1" | | | 75 | 27.00 | |
| 8 | EA. | OIL BOTTLES | | 3.00 | 24.00 | 36 | EA | " | 3/4" | | | 67 | 24.12 | |
| 5 | EA. | BELL SIGNALS | | 5.75 | 28.75 | | | | | | | | | |

Docket No. DMEA-3603



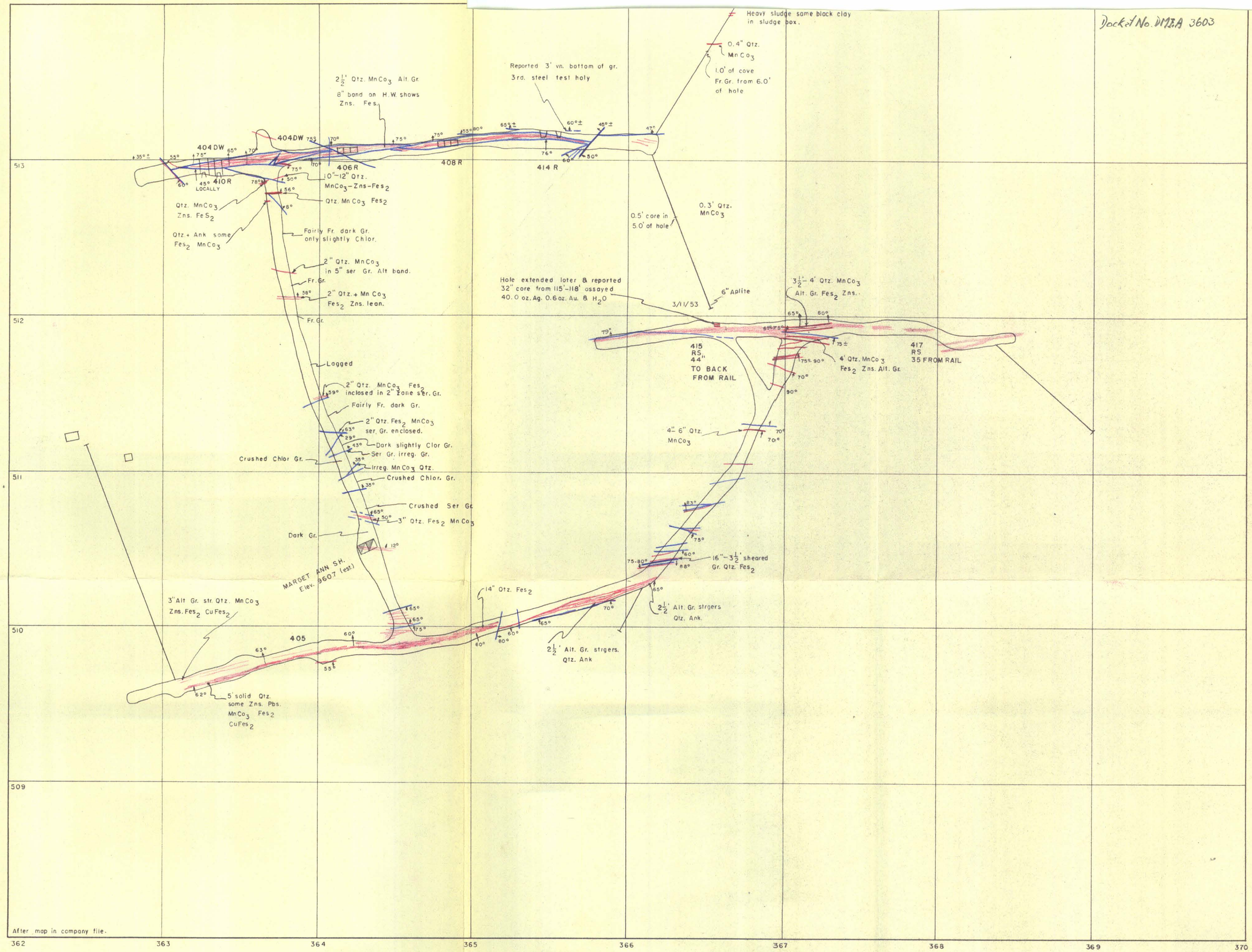

# MITCHELL MINING CO

## MARGET ANN MINE CLAIM

550 LEVEL

SCALE 1" = 40'

Docket No. DMEA 3603



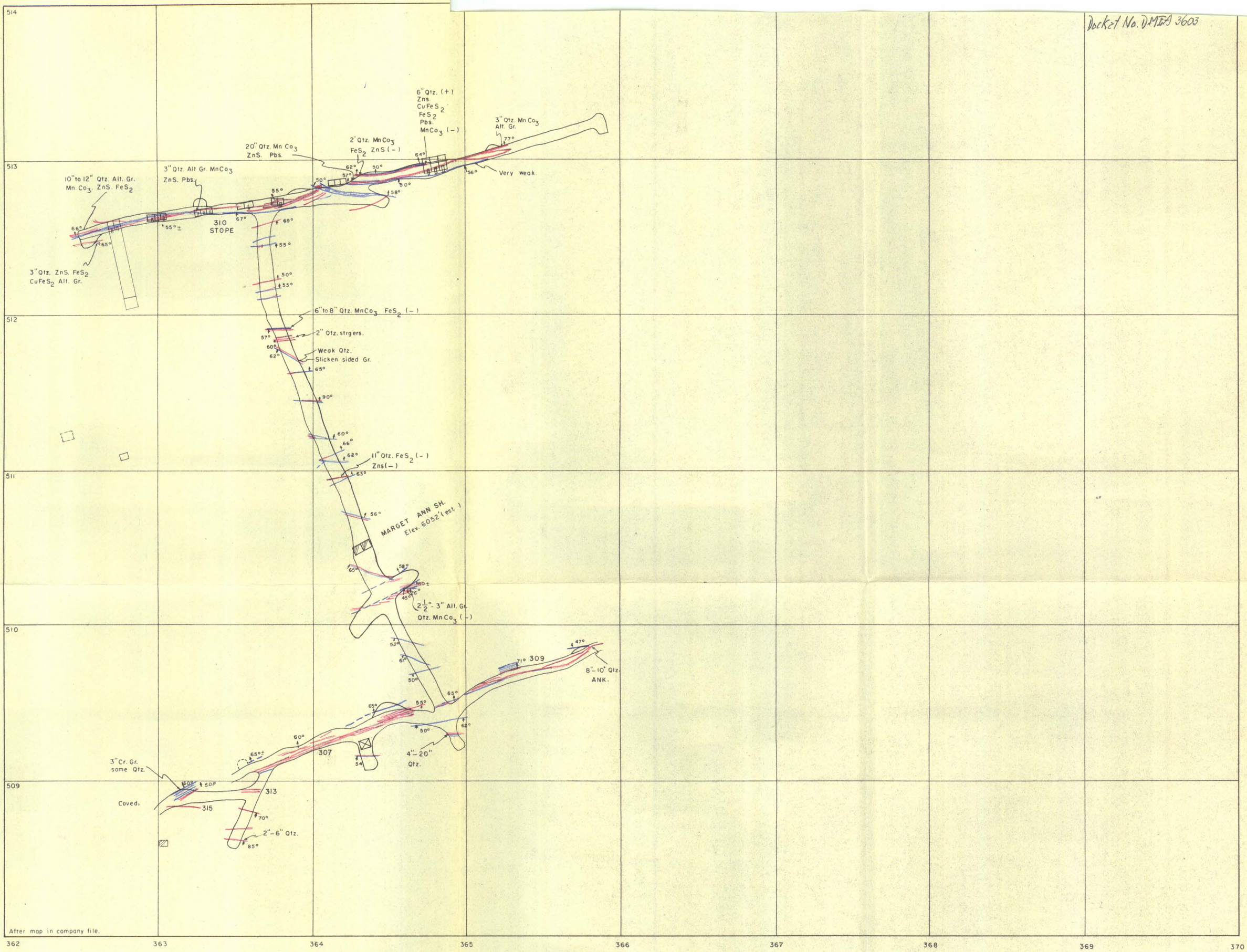

# MITCHELL MINING CO

## MARGET ANN MINE CLAIM

400 LEVEL

SCALE 1" = 40'

Docket No. DMEA 3603



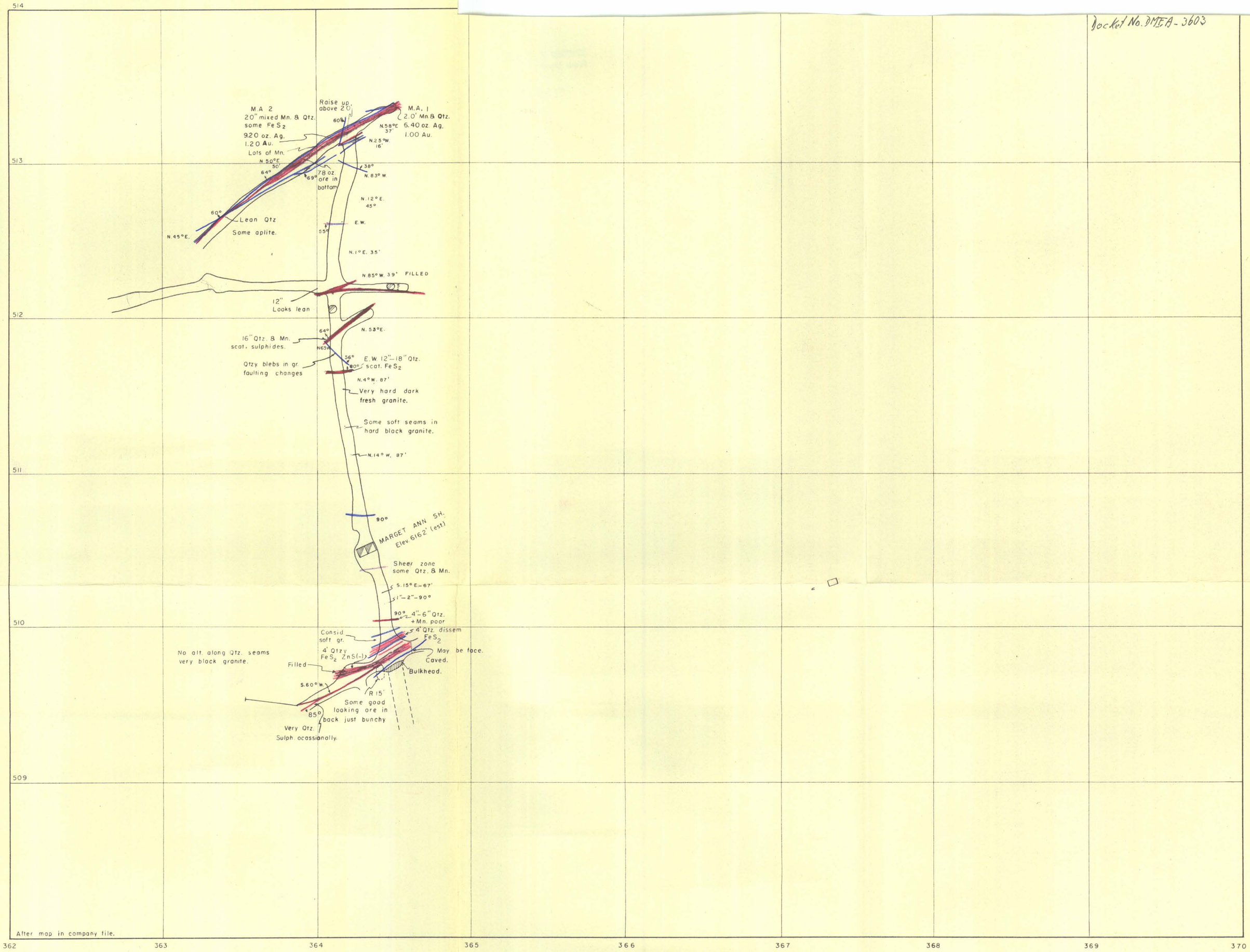

# MITCHELL MINING CO

## MARGET ANN MINE CLAIM

### 300 LEVEL

SCALE 1" = 40'

Docket No. DMEA-3603



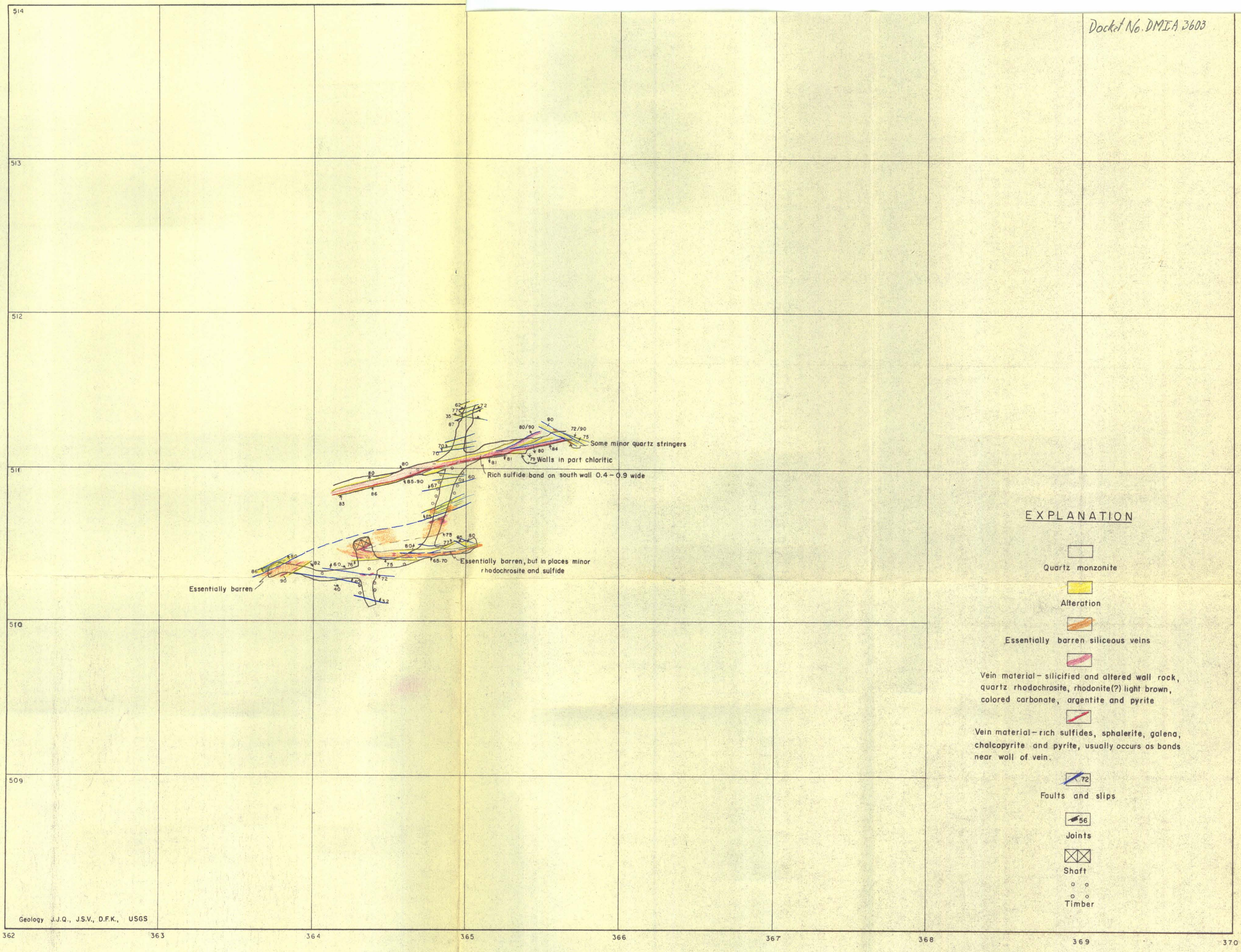

# MITCHELL MINING CO

## MARGET ANN MINE CLAIM

### 200 LEVEL

SCALE 1" = 40'

Docket No. DMIA 3603



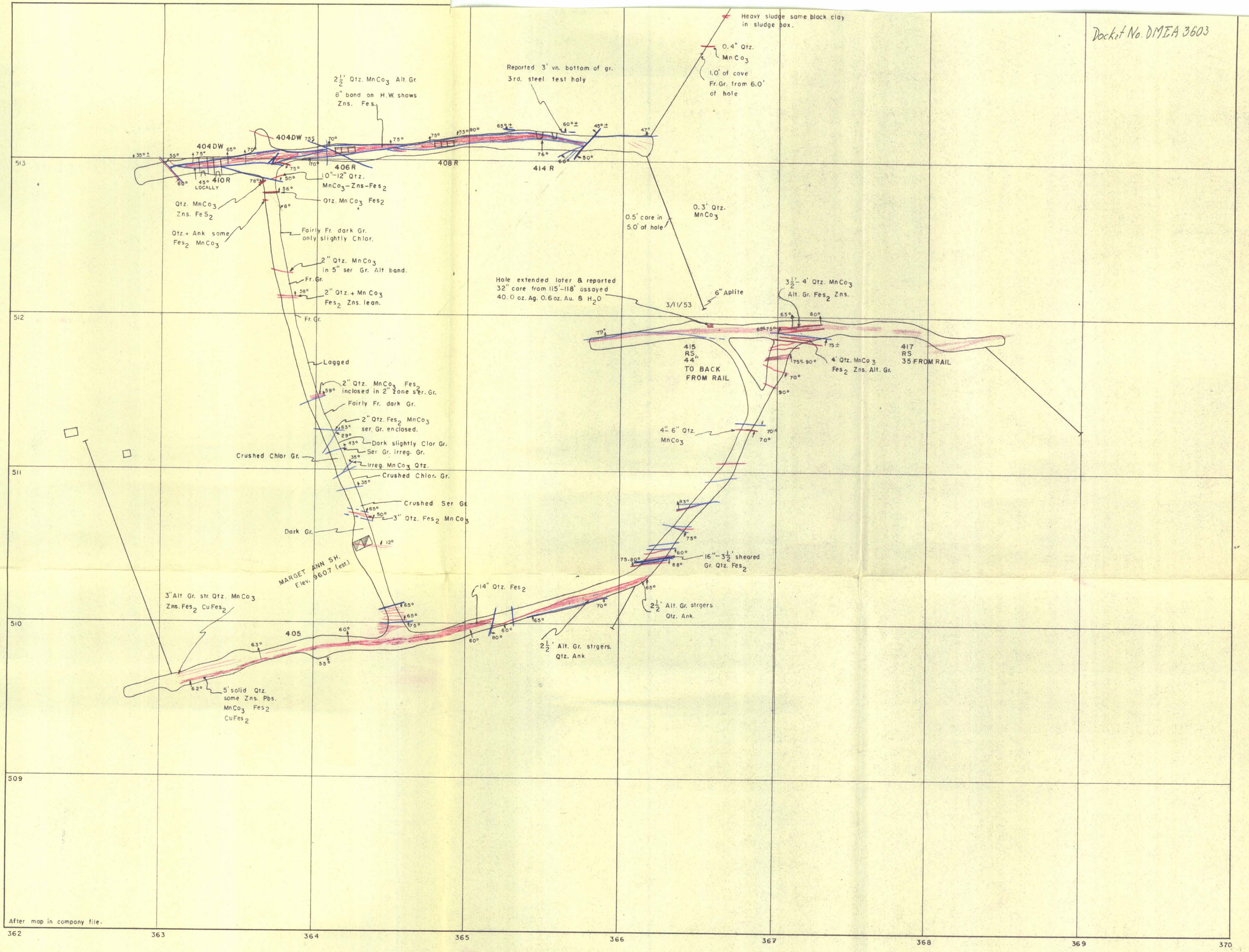

# MITCHELL MINING CO

## MARGET ANN MINE CLAIM

550 LEVEL

SCALE 1" = 40'

Docket No. DMEA 3603



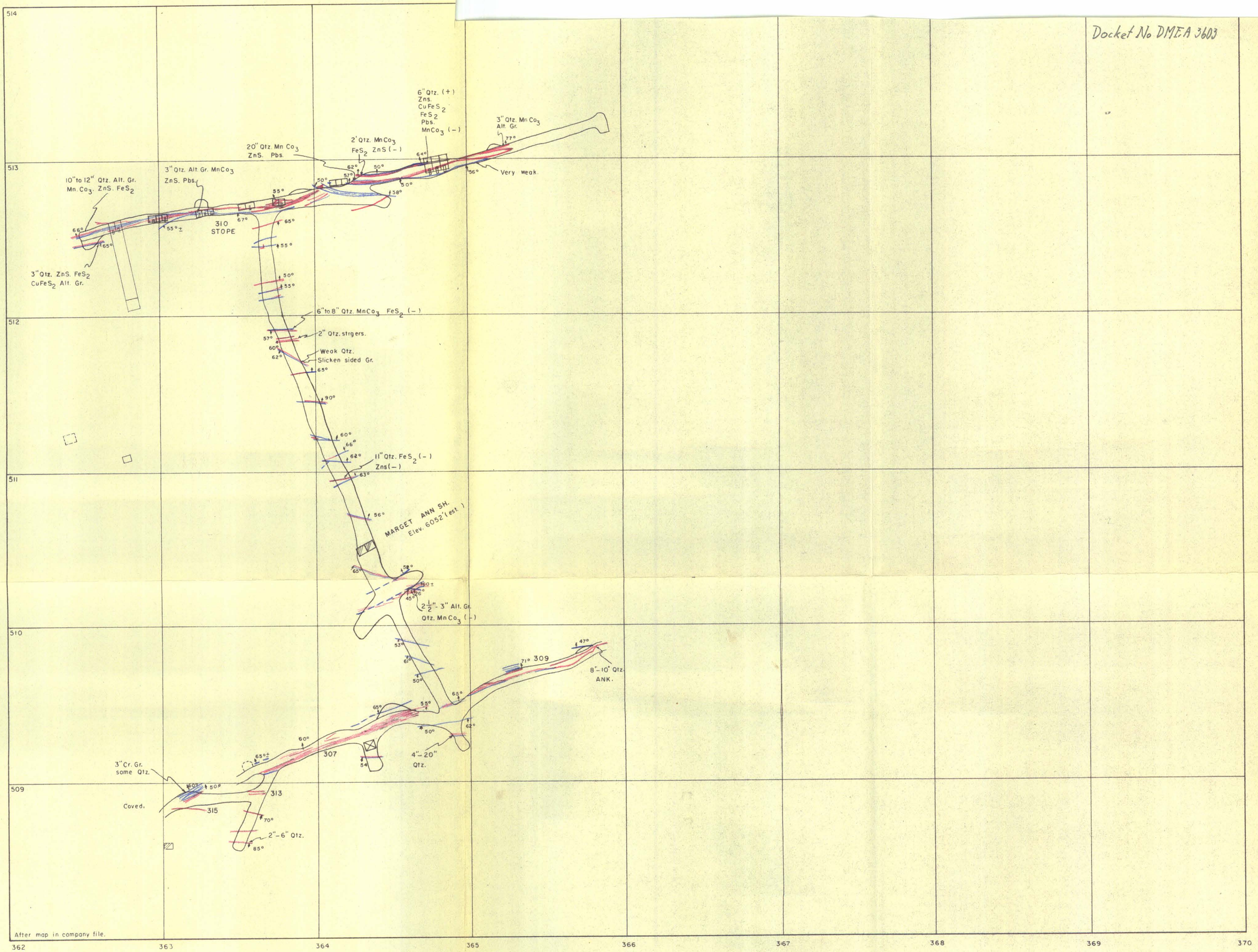

# MITCHELL MINING CO

## MARGET ANN MINE CLAIM

400 LEVEL

SCALE 1" = 40'

Docket No DMEA 3603




After map in company file.

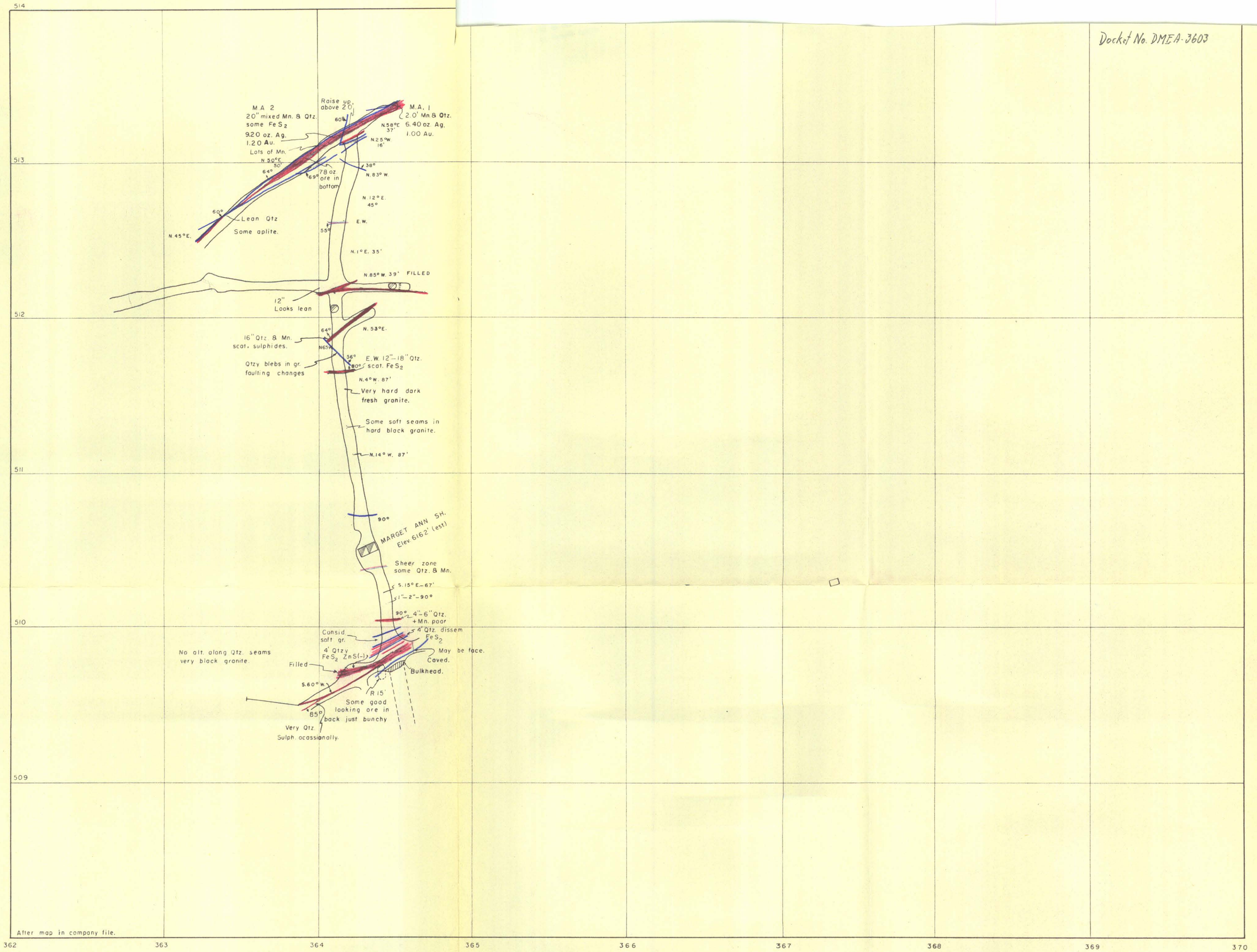
# MITCHELL MINING CO

## MARGET ANN MINE CLAIM

### 300 LEVEL

SCALE 1" = 40'

Docket No. DMEA-3603




# MITCHELL MINING CO

## MARGET ANN MINE CLAIM

200 LEVEL

SCALE 1"= 40'