So. 157 Howard Street
Spokane 4, Washington

July 3, 1951

Memorandum

To: Field Team, Region II

From: W. Bradley Myers and Henry C. Rainey, III, U.S. Geological Survey, and Constantine C. Popoff, U.S. Bureau of Mines

Subject: DMA Docket No. 679, Martin Mining Company, Martin Mine, Flathead County, Montana. Commodity: Lead-zinc and copper

Purchase contract

RECOMMENDATIONS

The Field Team recommends that the Martin Mining Company not be offered a purchase contract for zinc and copper because of the lack of demonstrable ore reserves. The company is not in a financial position to enter into an exploration program on a matching basis.

SUMMARY OF FIELD EXAMINATION

The property was examined by the Examination Team on May 30 and June 4 in the company of Waino Lindbom, who has been in charge of Mining operations.

It was found that all the workings below the adit level of the Martin mine were flooded. The adit level was examined by the team. A geologic map modified by Myers and Rainey from a map made by the Great Northern Railway Company is shown on the accompanying fig. 2.

The adit was driven on limonite-coated fractures in a massive latite tuff to pick up the downward extension of a north-trending steep vein exposed on the surface. The vein was picked up at a distance of 100 feet from the portal and followed for 78 feet at which point the vein assumed a northeasterly strike and left the workings. Over the exposed length the vein is a rather poorly defined silicified zone in the massive latite tuff varying from 6 inches to more than a foot in width. At only three locations, which together totalled about 16 feet of strike length, was any sulphide mineralization recognizable in the silicified zone. Pyrite was by far the dominant sulfide, but at the northern location small amounts of copper sulfide could be seen in a zone as much as eight inches wide extending eight feet along the strike.

Significantly the company map of the adit attached to the original application shows three samples, taken at points corresponding rather closely to the three locations independently mapped by the Examination Team as mineralized. The company sample at the northern location is matched by one taken by the Great Northern Railway.

The two samples are tabulated below:

Sample	Pb(%)	Zn(%)	Cu(%)	Ag(oz./ton)	Au(oz./ton)	Width feet
Martin Mining Co. T 03	3.3	9.0	11.4	17	--	--
Great Northern Railway H 22	--	none	0.4	1.9	0.01	1.5

The conclusion appears warranted that the assays of samples taken by the company on this level, and probably on the inaccessible lower levels as well, represent assays of specimens rather than impartially collected channel samples across the vein zone.

The most reliable indication available of the type and grade of the better portions of the vein zone in the lower levels is believed to be given by the following assays.

Assays of large samples sent to Denver Equipment Company for ore testing (Total gross weight of samples and shipping drums, 675 pounds)

Sample	Location	Pb(%)	Zn(%)	Cu(%)	Au(oz./ton)	Ag(oz./ton)
1	16 and 40 ft. levels	-	-	4.04	0.08	10.12
2	100 ft. level	-	-	5.65	0.08	13.32
3	200 ft. level	1.71	6.06	-	0.01	5.79
4	300 ft. level	4.49	2.45	-	0.20	6.52
5	300 ft. level	7.82	2.13	-	0.25	4.80

(Con't.)

Sample	Location	Fe(%)	S(%)	Insol.(%)	Sp Gr
1	16 and 40 ft. levels	17.7	11.7	51.4	2.81
2	100 ft. level	20.0	22.7	45.5	3.49
3	200 ft. level	3.8	3.1	81.2	2.76
4	300 ft. level	10.7	13.6	53.5	3.00
5	300 ft. level	5.5	0.0	70.0	2.94

The assay for the only production from the mine suggests that, for the copper ore at least, the mining grade would be somewhat lower.

Assay of 16-ton lot from 200 level, milled by
Green Mountain Mining Company

	Au (oz./ton)	Ag (oz./ton)	Cu(%)
Combined composite head sample	0.08	3.8	1.9

Mr. Dingman, in an informative report which accompanied the application, makes the following general statement:

"Visually, the ore widths are measured mostly in lenses or pockets which are irregular as much as two feet or more in width."

The estimation of the aggregate tonnage of these lenses within the limits of development is patently impossible with the available data. However, geologic mapping in the upper levels suggests that this tonnage is small.

The average grade for the entire vein in the lower levels is probably very low. Two samples taken by Popoff from the vein dump are tabulated below:

Large channel samples from five-foot pits in
Martin mine vein dump

Sample	Pb(%)	Zn(%)	Cu(%)	Ag	Au
U.S.B.M. 211	0.4	<0.05	0.2	1.8	0.16 Composite
U.S.B.M. 212	<0.05	<0.05			

In September 1949, Lindbom began a prospect working about 1,250 feet N. 70° W. of the Martin mine. This working, called the Donald adit, prospects a N. 35° E. -trending fault contact between

latite porphyry and bedded latite tuff (see figs. 1 and 3). At a point 135 feet from the portal the adit intersects a tabular body of highly silicified latite porphyry adjacent to the fault contact. This body is almost completely delineated by the workings and is estimated to contain roughly 1,000 tons of silicified rock. It is bounded largely by pre-mineralization joints and faults. The silicified rock, rendered cellular by removal of the feldspar phenocrysts, is similar to that in the silver ore shoot in the upper levels of the Flathead mine 1/. In the Donald adit, however, pyrite is essentially the only sulfide. Locally, near the margins of the body, discontinuous streaks of tetrahedrite (?) and chalcopyrite up to one-half inch thick were noted. A vertical channel sample seven and one-half feet in height, taken by Popoff, assayed less than 0.05 percent Pb and less than 0.05 percent Zn per ton. Assays for copper, silver, and gold are pending, but it is believed that the average copper content for the body is not more than several tenths of one percent.

Here again the assays portrayed on the company map appear to be much higher than that expectable from anything but picked samples.

A second prospect adit, the Frances Lee, was located about 200 feet south of the Donald adit and driven in a southerly direction for 130 feet, mostly in latite porphyry. No significant mineralization was recognized by the Examining Team in this working.

1/ Shenon, P. J., and Taylor, A. V., Jr., Geology and Ore Occurrence of the Hog Heaven District, Flathead County, Montana. Montana Bur. Mines and Geol., Memoir 17, pls. 5 and 6, 1936.

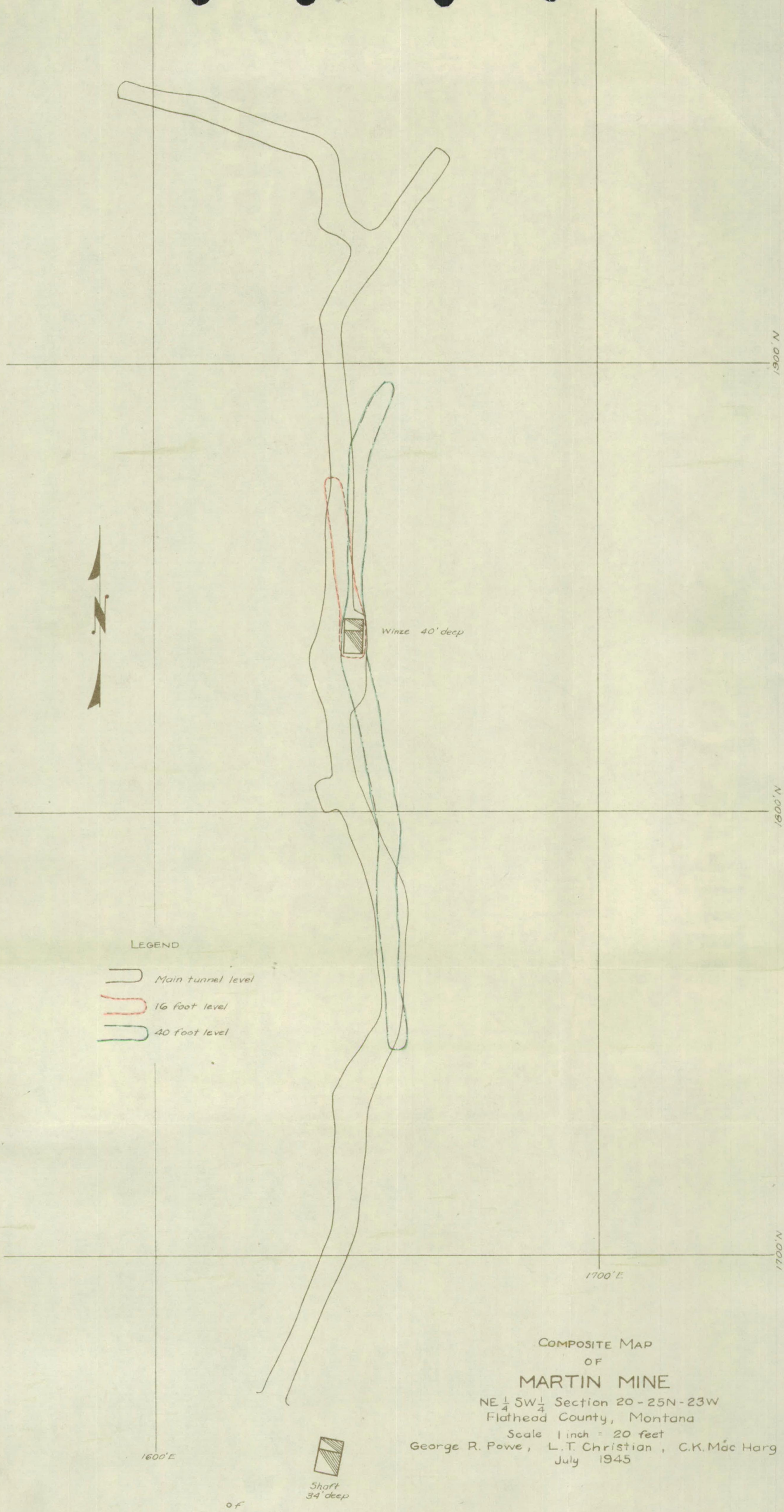
A flotation mill, having an approximate daily capacity of 50 tons, is being erected by the company on the property. The equipment was acquired by one of the stockholders from the Moonlight mine at Philipsburg, Montana, for $7,000 and consists of a jaw crusher, ball mill, jig, concentration table, classifier and 6-cell flotation unit, nearly all made by Morris Brothers of Denver in 1942. It is understood that the company will pay for the equipment at the rate of $1.00 per ton of ore milled. The total cost of the mill, including building and transportation expenses, is $23,400 to date.

The mill is reported by the company to be ready for operation, although essential equipment such as additional flotation units and washing thickener are absent. The mill equipment has not been tested. The recommendations of the Ore Testing Division of the Denver Equipment Company, who made mill tests on the Martin ore, have not been followed. It is doubtful that the present plant can produce marketable lead and zinc concentrate without rebuilding at considerable expense.

DISCUSSION

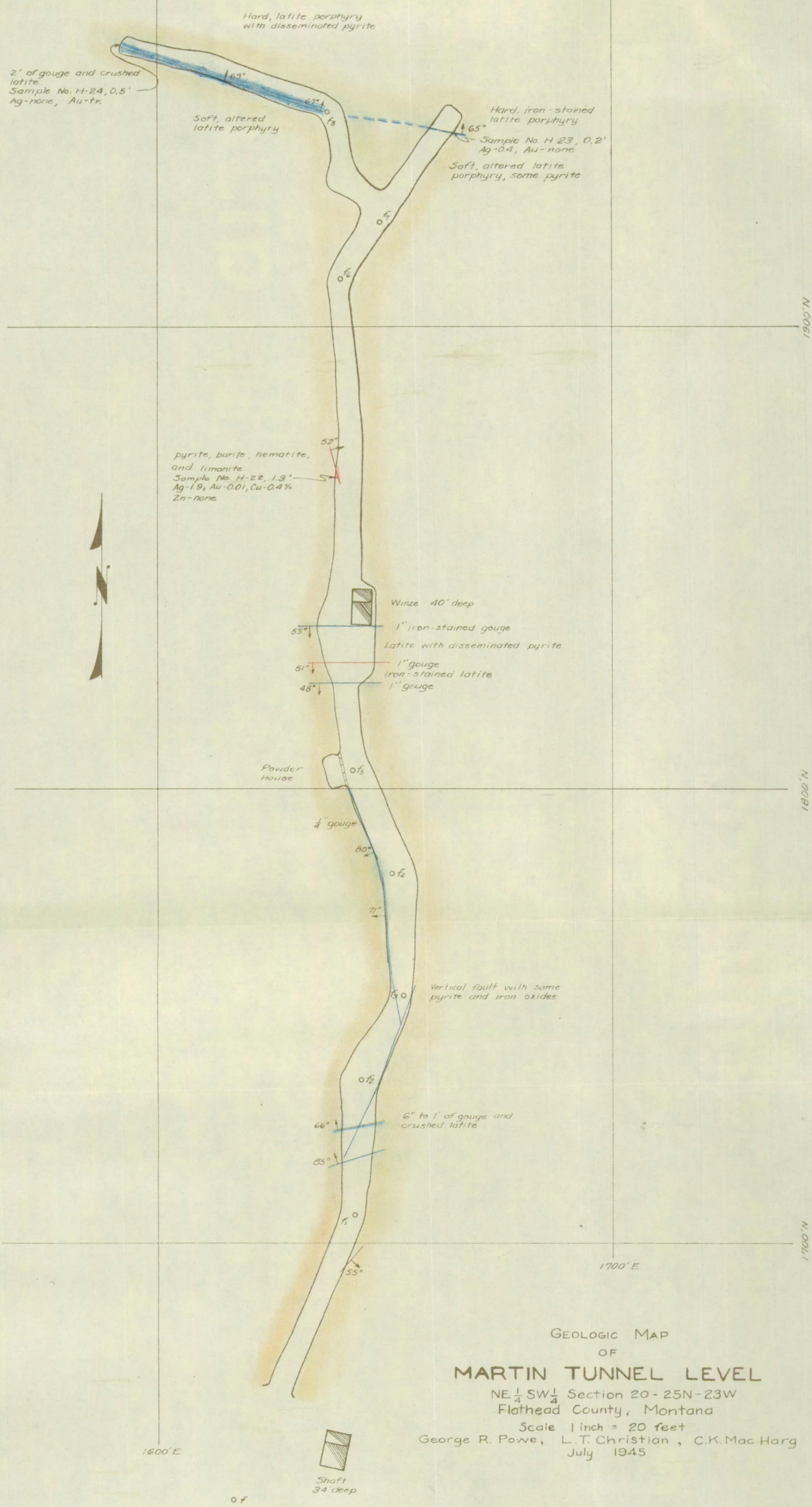
Minable reserves cannot be demonstrated on the Martin Mining Company property. The fact that the Martin structure has been prospected for 300 feet horizontally, apparently to the limits of mineralization, and 300 feet vertically seemingly without finding a commercial ore shoot, is not too promising a basis for further exploration. Neither can the record of the Donald adit be considered very promising in the light of present knowledge.

In addition to the fact that the company is not financially able at present to match funds on an exploration program, the inexperience of the management weighs heavily against a successful outcome of any such program.



COMPOSITE MAP
OF
MARTIN MINE
NE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 20 - 25N - 23W
Flathead County, Montana
Scale 1 inch = 20 feet
George R. Powe, L.T. Christian, C.K. Mac Harg
July 1945

of



GEOLOGIC MAP
OF
MARTIN TUNNEL LEVEL
NE ¼ SW ¼ Section 20-25N-23W
Flathead County, Montana
Scale 1 inch = 20 feet
George R. Powe, L.T. Christian, C.K. Mac Harg
July 1945

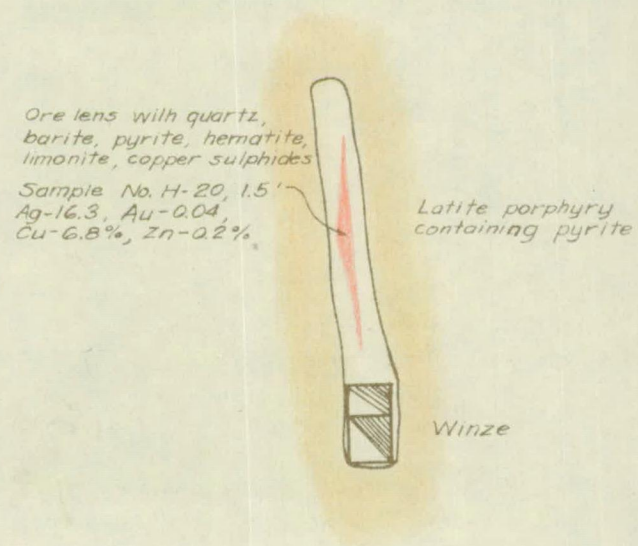
C-12-5

GEOLOGIC MAP
OF
MARTIN MINE 16 FOOT LEVEL

NE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 20 - 25N - 23W
Flathead County, Montana
Scale 1 inch = 20 feet
George R. Powe, L. T. Christian, C.K. MacHarg
July 1945

2000' N

1900' N



1800' N

1600' E

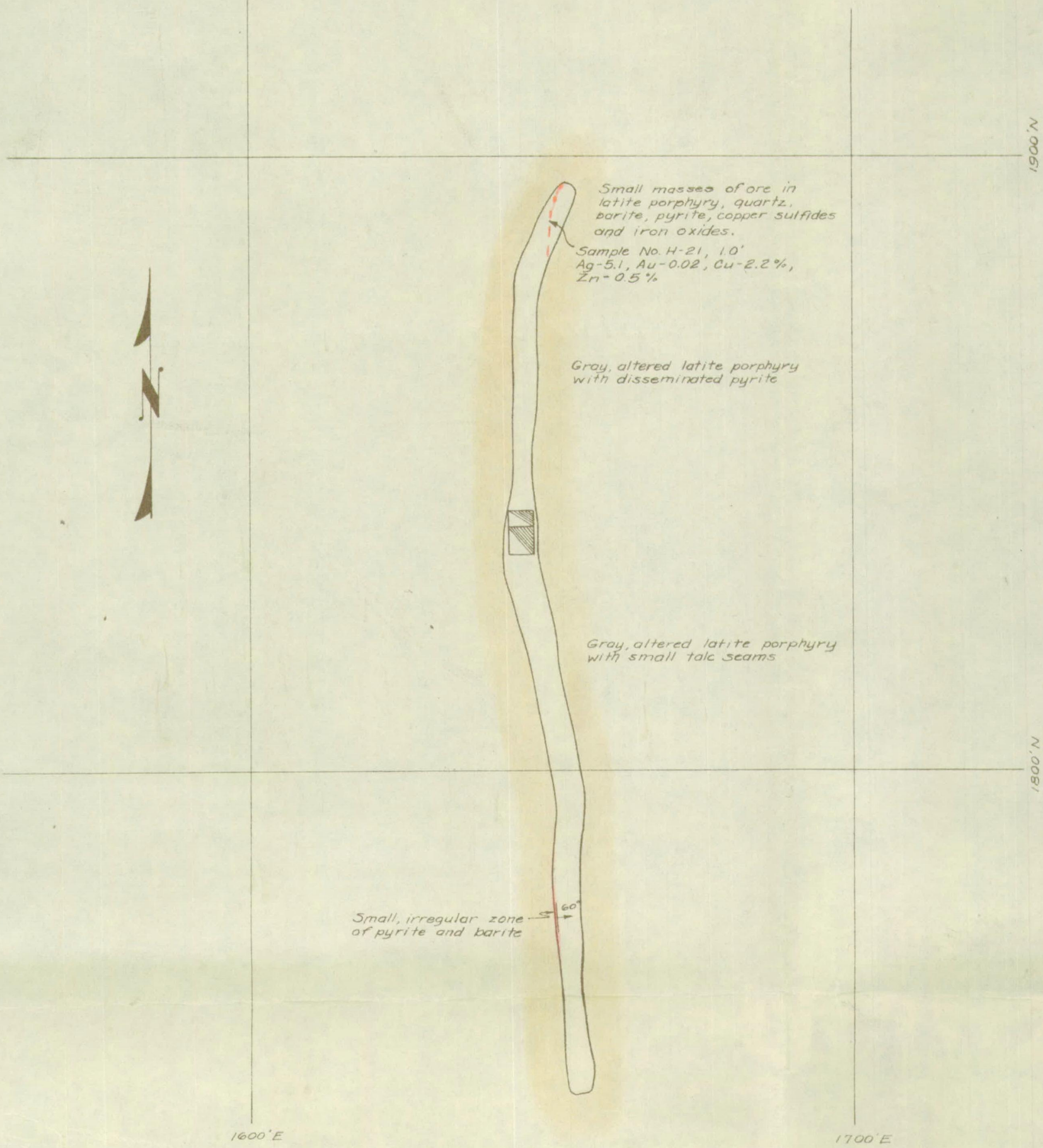
1700' E

C-12-5

GEOLOGIC MAP
OF

MARTIN MINE 40 FOOT LEVEL

NE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 20 - 25N - 23W
Flathead County, Montana
Scale 1 inch = 20 feet
George R. Powe, L.T. Christian, C.K. MacHarg
July 1945



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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
So. 157 Howard Street
Spokane, Washington

Martin Mining

April 24, 1951

Mr. Elmer W. Robinson
Pres., Martin Mining Co.
Polson, Montana

Dear Sir:

In accordance with your request, enclosed please find five copies of Form MF-103, to be used in applying for an exploration contract. A copy of Mineral Order 5 is also enclosed.

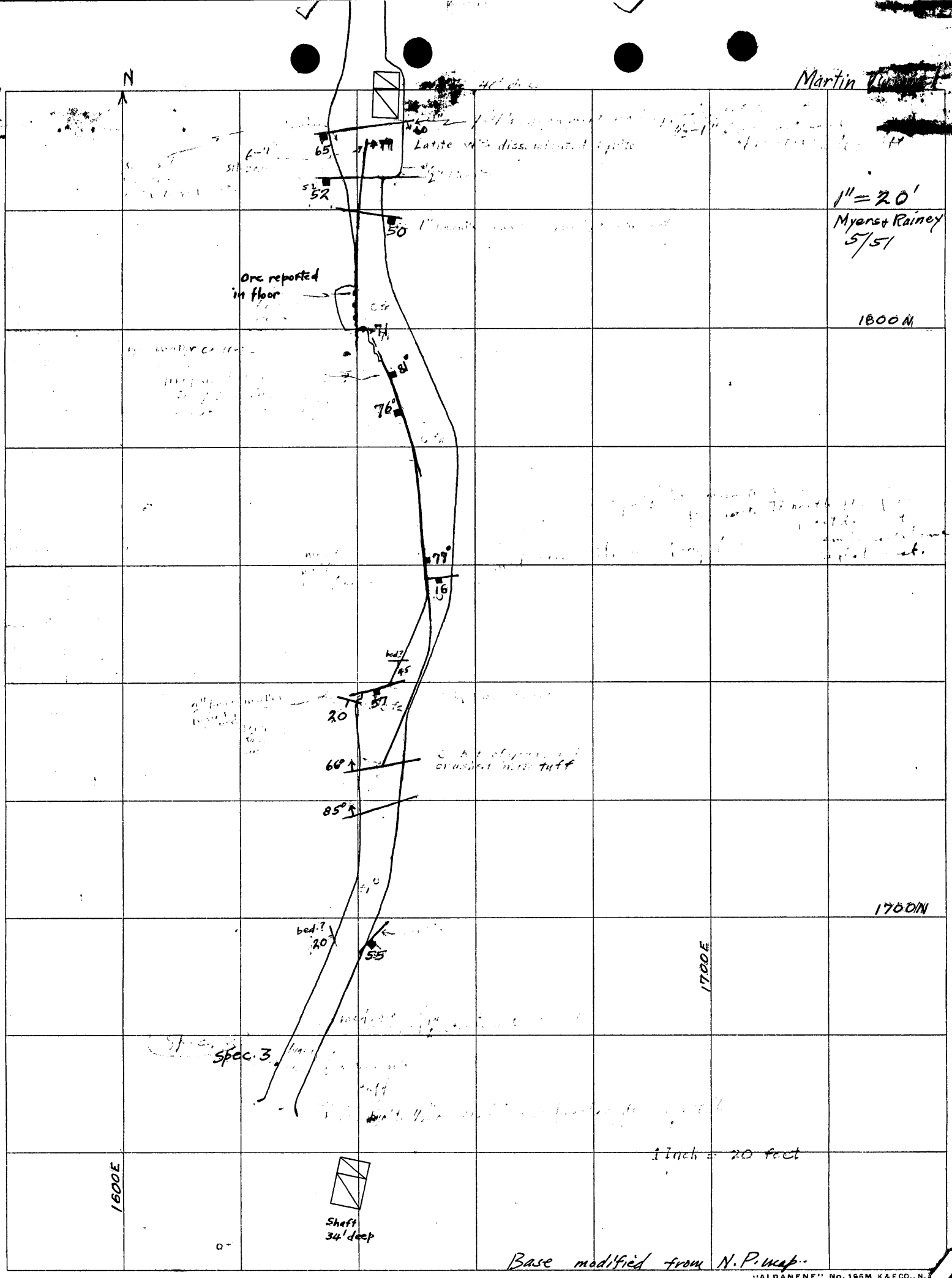
We regret the delay in replying to your request, but the necessary forms were not received in this office until today.

Very truly yours,

A E Weissenborn

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

Enclosures

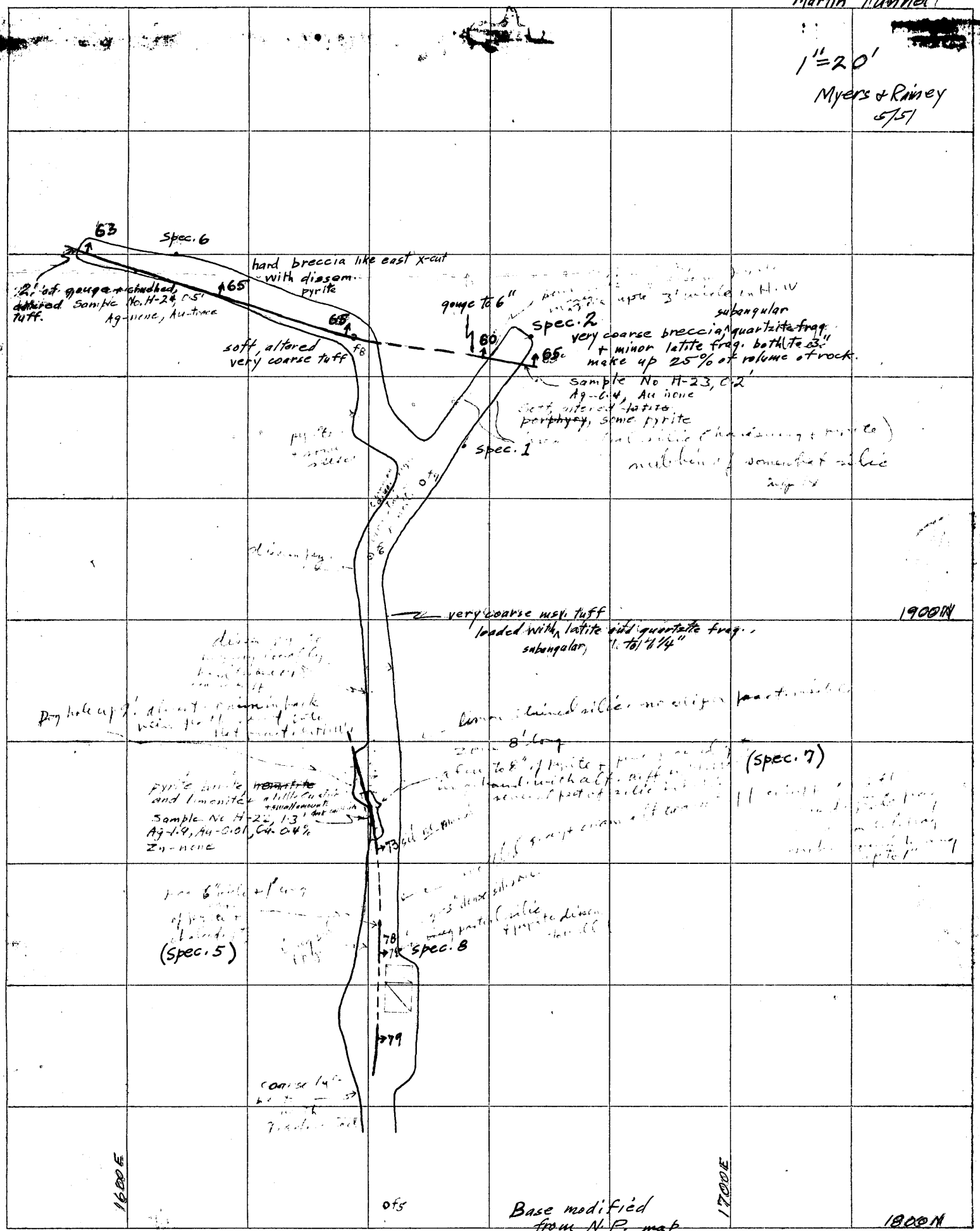


"ALBANENE" No. 195M K&E CO., N.Y.
REG. U.S. PAT. OFF

Martin Tunnel

1" = 20'

Myers & Rainey
5/51



"ALBANENE" No. 195M K&E CO., N.Y.
REG. U.S. PAT. OFF

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

March 2, 1951

Memorandum:

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

From: Lead-Zinc Branch, DMA Re: Docket DMA-679

Subject: Application of
Martin Mining Company
Hans Tutvedt, President
Kalispell, Montana
Martin Mine, Flathead County, Montana

Commodity: Lead, zinc, and copper

The applicant requests a loan of $195,000 and plans to use the monies as follows:

Repayment of loan	$20,000
Building construction	20,000
Purchase of mine and mill equipment	61,000
Working capital	94,000

The property has been developed over a vertical distance of 300 feet by about 2,000 feet of drifts on four main levels and two sub-levels, which are served by a 350 foot vertical shaft and two raises on the vein. Assay maps of the levels show that appreciable amounts of silver, copper, zinc, and lead occur within the vein. However, no width for samples is given, therefore, no estimate can be made of tenor or amount of ore. The assays may be only of grab samples.

A report by Oscar A. Dingman, a mining engineer, which seems reliable, states that the ore occurs in pockets and lenses within the vein which are as much as two feet or more in width. Mr. Dingman concludes that "the property is in no sense a proven mine but that it may have very good possibilities as a mining prospect."

The only production listed is 16 tons of ore which were experimentally milled by the Green Mountains Mining Co., and from which two tons of concentrates were recovered, which assayed 0.44 oz. Au, 14.9 ozs. Ag. and 18.37% Cu.

The Lead-Zinc Committee recommends that this application be referred to the field for an investigation to follow DMA Outline of Report for Recommendation of Commodity Committee on Application for Government Assistance with the feasibility of offering a purchase contract for zinc and copper in mind. The loan requested appears to be out of line with what the applicant might need or be able to repay.

Otto Herres

OTTO HERRES, Chief
Lead-Zinc Branch
Defense Minerals Administration

Approved:
DMA Operating Committee

Sam Myers
Chairman

Lowell B. Moon
L. B. Moon

for T. P. Thayer
Olaf N. Rove

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

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OTTO HERRES, Chief
Lead-Zinc Branch
Defense Minerals Administration

Approved:
DMA Operating Committee

Chairman
LOWELL B. MOON,

L. B. Moon

Olaf N. Rove

ABGriggs:jr
3/7/51
Copies to: Chief, Lead-Zinc Br.
USGS - McKnight
L. B. Moon
R. H. Mott
Strobel
Mittendorf
2 copies to Executive Officer
Regional Field Team, Region II
Files

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

March 6, 1951

Ref: Docket DM-67

Mr. Hans Tutvedt, President
Martin Mining Company
Kalispell Montana

Dear Mr. Tutvedt:

Your application (Docket DM-67) for a Government loan under the provisions of the Defense Production Act of 1950 has been reviewed by the Lead-Zinc Branch of the Defense Minerals Administration. Before final decision can be taken on your request it will be necessary to obtain additional information on your property. Your application, therefore, has been referred to the Field Office, Mr. A. E. Weissenborn, Executive Officer, E. 107 Howard Street, Spokane 2, Washington, with the request that the needed information be supplied to us.

Very truly yours,

Tom Lyon, Director
Supply Division

SOriggs:emp
C-3/8/51
Copies to: Chief, Lead-Zinc Br.
USGS - McKnight
L. B. Moon
A. H. Mote
2 copies to Executive Officer
Regional Field Team, Region II
Strobel
Mittendorf
Miles

C
O
P
Y

Polson, Montana
February 7, 1951

Mr. A. E. Weisenborn
Spokane, Washington

Dear Mr. Weisenborn:

Enclosed please find maps and materials requested for application for a government loan.

Mr. Weisenborn, if there is anything else that we need please advise and we will send it to you. If not, would you please send this on to Washington, D.C? as soon as possible, We have a large amount of minerals needed by the Government and all we ask is a fair break.

Thanking you for your kind assistance, I remain

Sincerely yours,

Elmer W. Robinson
Director of Martin Mining Co.

So. 157 Howard Street
Spokane, Washington

February 12, 1951

Mr. Landon F. Strobel
Executive Secretary
Defense Minerals Administration
Department of Interior
Washington 25, D.C.

Dear Mr. Strobel:

Enclosed herewith is an application, submitted in quadruplicate, by the Martin Mining Company, Flathead County, Montana.

The application appears to be in order, and it is accompanied by a brief report on the mine by Oscar A. Dingman, Butte, Montana. However, the accompanying maps are rather crude, so we have written a short note on the Martin level map showing what we believe to be the main shaft, which may be of use in orienting the maps of the lower levels.

Mr. A. E. Weissenborn talked with Mr. Waino Lindbom and was impressed with Mr. Lindbom's sincerity. Lindbom appears to be a good practical miner, although not too experienced along technical lines. Lindbom has made an honest attempt to secure the required data for the DMA application, and it is doubtful if more geologic information can be obtained from him. From Mr. Lindbom's description it would seem that a field investigation of the Martin Mining property by the DMA field team would be warranted.

Very truly yours,

Thor Kiilsgaard
for: A. E. Weissenborn
Executive Officer, DMA,
Field Team, Region II

Enclosures:
Ltr., Weissenborn from Robinson, 2/7/51
Report of Martin Mining Co. (handwritten)
Balance Sheet & Operating Statement
Test results on ore
Carbon copy ltr. from Dingman to Tschirgi
Four maps
Application (in quad.)