REGIONAL DIRECTOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

August 9, 1951

Memorandum

To: Landon Strobel, Executive Secretary
Defense Minerals Administration

From: DMA Field Team, Region IV

Subject: DMA Docket 542, Paragon Mines, San Bernardo Mine, San Miguel, County, Colorado

Enclosed herewith is original and two copies of the report as indicated above.

We concur with the conclusions and recommendations of the examining team.

F. T. Allaman, Alternate

A. H. Koschmann

A. H. Koschmann

Enclosures
One copy by Air Mail
Two copies by Regular Mail

Id

cc: DMA

Mining Division
Date Rec'd.

JUL 19 1951

BUREAU OF MINES
Denver, Colorado

UNITED STATES
DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

DENVER, COLORADO

Region IV

Building 2-A
Denver Federal Center
Denver 14, Colorado

July 19, 1951

Memorandum

To: Chief, Mining Division, Region IV

From: W. M. Traver, Jr.

Subject: DMA Docket 542, Report on the Paragon Mines, Inc. (San Bernardo Mine)

Please find enclosed the original and seven copies of the "Summary, Conclusions, and Recommendations", by W. B. Meek and Floyd D. Everett, and the same number of copies of Everett's engineering report on the subject docket.

In view of the fact that the indicated value of the ore to be mined is less by about $2.85 a ton than the cost of production, the examining team recommends that the requested exploration loan be denied. I concur with this recommendation.

The original brochure as received from your office is also enclosed.

W. M. Traver, Jr.

W. M. Traver, Jr.

enclosures

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

224 New Customhouse
Denver 2, Colorado

July 23, 1951

Memorandum

To: DMA Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: DMA Docket 542, Final Report, Paragon Mines, Inc., San Bernardo Mine, San Miguel County, Colorado.

The applicant requested a $50,000 exploration loan for the purpose of opening old workings in the San Bernardo Mine, with the objective of proving 100,000 tons of zinc-lead ore. The workings are inaccessible and no sampling was done, but the examining team estimate the indicated ore above the level at 59,000 tons, with an average unit content of 0.016 ounces gold, 6.34 ounces silver, 1.59 percent lead and 0.137 percent copper, based on returns of past production.

The examining engineer estimates that the proposed work could be done at a cost not exceeding $25,000. Due to the low estimated grade of the ore, operations would be submarginal, and they recommend denial of the application.

We concur with this recommendation, although this is one of those marginal projects which might produce appreciable lead and zinc.

Paul T. Allsman

Paul T. Allsman

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Administration
200 New Customhouse
Denver 2, Colorado

August 9, 1951

Memorandum

To: DMA Field Team, Region IV

From: A. H. Koschmann

Subject: DMA Docket 542, Paragon Mines Lead Project, San Miguel County, Colorado

Attached are the original and 7 copies of the geological report by Ward B. Meek covering the San Bernardo mine, San Miguel County, Colorado, DMA docket 542. Most of the mine is inaccessible and no sampling or observations could be made on reported ore shoots. Ore reserves are based chiefly on statements by Otto Beselack, applicant, and grade of ore is based on past production of the mine. The figures indicate that the ore is submarginal, and Mr. Meek points out that there is no evidence to indicate that ore of higher grade would be found in depth or any other part of the mine. Mr. Meek recommends that the application be denied. However, if Paragon Mines, Inc., will open, especially, No. 5 level for further study and sampling, this property might be reconsidered for a loan.

I concur with this recommendation.

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

Enclosures (8)

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

DEFENSE MINERALS ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMA-542, Paragon Mines, Inc., San Bernardo Mine
San Miguel County, Colo.

F. D. Everett, Mining Engineer
Bureau of Mines

W. B. Meek, Geologist
U. S. Geological Survey

July 18, 1951

PARAGON MINES, INC.
SAN BERNARDO MINE
SAN MIGUEL COUNTY, COLO.

Summary, Conclusions, and Recommendations

By F. D. Everett
Mining Engineer
Bureau of Mines

and

W. B. Meek
Geologist
U. S. Geological Survey

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver 2, Colorado

May 21, 1954

3354

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: Application of Paragon Mines, Inc., Ophir, Colorado

Paragon Mines, Inc., in their application for DMEA assistance, does not indicate an interest through lease, ownership, or right of entry in the West Branch, Clydesdale, or Nevada claims. As noted in your memorandum of May 14, 1954, transmitting the application for field examination, these three claims are directly connected with the exploration program, for the work would be carried out through the West Branch tunnel which passes beneath all three claims.

Approval of a program of exploration will involve the right to pursue operations through the West Branch tunnel, and it appears advisable for the Field Team to determine the ownership of the claims in question by correspondence with the applicant before a field examination is made. This examination will require at least 3 days in the field in addition to office time to prepare a report.

Pending your decision on the above suggestion, the application of Paragon Mines will be held inactive.

E. N. Hinchman
for A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

cc: W. M. Traver

PARAGON MINES, INC.
SAN BERNARDO MINE
SAN MIGUEL COUNTY, COLO.

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By F. D. Everett and W. B. Meek

The Paragon Mines, Inc., has applied for a $50,000.00 exploration loan to reopen the San Bernardo mine. The project would consist of driving 330 or 660 feet of new drift around an unknown length of caved drift and of rehabilitating from 575 to 275 feet of the old drift. The costs of the two proposals are estimated at $15,000.00 and $25,000.00, respectively.

The ore deposits lie in the San Bernardo vein which strikes N. 80° W. and dips 65° to 70° SW. Most of the vein is enclosed by Mancos shale which dips about 3° northwesterly; however, in two places in the mine the wall rock is diorite-monzonite. Mineralization has entered along a narrow fault zone of small displacement and filled the fissures which are separated by leaves of rock; no appreciable metallization of country rock occurred although pyritization, sericitization, and silicification are common.

The chief ore minerals are galena, freibergite, gold, and pyrargyrite; the gangue is chiefly quartz, siderite, and calcite.

The ore zone was completely inaccessible, no samples could be taken, and all information was obtained from the mine manager or from company records.

Indicated ore reserves are estimated at 65,000 tons. Barren areas and sorting could reduce this to 59,000 tons. Results of samples

as given by the mine manager average 0.03 ounce gold and 20.19 ounces silver a ton, 0.55 percent copper, and 2.49 percent lead. The average recovered grade of the mine production since 1902 as calculated from Bureau of Mines records is 0.017 ounce gold and 6.83 ounces silver a ton, 0.13 percent copper, and 1.59 percent lead. Recoverable zinc is estimated at 1.0 percent.

The following conclusions and recommendations are offered:

1. The San Bernardo vein is in a strongly mineralized belt, and has a trend parallel to that of other producing veins in the area.

2. Although the main production has come from veins in the volcanic rocks, veins in the Mancos shale are strong and persistent.

3. About 59,000 tons of indicated minable ore of a grade comparable to that previously mined is estimated for the mine.

4. A project of 330 feet of drifting and 575 feet of drift rehabilitating is estimated to require six months and to cost $15,000.00; a project of 660 feet of drifting and 275 feet of drift rehabilitating is estimated to require one year and to cost $25,000.00.

5. A profit is not indicated at the present metal prices for mining ore similar to that previously produced at the San Bernardo mine.

6. The exploration loan should not be granted.

Geology

PARAGON MINES LEAD PROJECT

SAN MIGUEL COUNTY, COLORADO

DMA DOCKET 542

Geology

By Ward B. Meek, Geologist
U. S. Geological Survey

PARAGON MINES LEAD PROJECT
SAN MIGUEL COUNTY, COLORADO

Paragon Mines, Inc., controls the San Bernardo Mine situated southwest of Ophir, Colorado, in San Miguel County. The rocks exposed in the general region include a small amount of Algonkian quartzite and rhyolite, sediments of Jurantriassic, Cretaceous, and Eocene? ages, and igneous rocks of Eocene and Neocene age. In the San Bernardo Mine, only two formations are exposed--the Mancos shale (Cretaceous) and a diorite-monzonite (Eocene or Neocene) intrusive mass.

The Mancos formation is reportedly some 2000 feet thick in this region. It consists of dark gray to black rocks, mostly true shales, but it includes many sandy to calcareous claystones. Some of the wall-rock resembles limestone, but tests for carbonate were negative except for traces. Near the San Bernardo vein, the Mancos shale has been altered, chiefly by silicification; locally fine granular pyrite is disseminated through it. Alteration is nowhere so intense that the sedimentary character of the Mancos is obscured or its dip of about 3° north-northwest concealed.

The diorite-monzonite occurs in two places in the mine. It is exposed on the No. 5 level for about 925 feet inward from the portal, and presumably also below an exposure of some 300 feet on the No. 4 level, now inaccessible due to caving (See Figure 2). It is sericitized and chloritized. Impregnation with finely granular pyrite was observed locally. Some secondary calcite is present.

The structural relation between the Mancos shale and the diorite-monzonite is uncertain. Distribution of the diorite-monzonite suggests that the exposures in the mine are tongues reaching upward from a sill or irregular intrusive mass that splits the Mancos in its lower third. About 1200 feet of Mancos lie above level 5 and below the overlying San Miguel formation (Not shown in Figure 2). If the Mancos is 2000 feet thick some 800 feet of it lie directly below No. 5 level or have been cut out by the intrusion. This raises the question whether the San Bernardo vein at lower levels lies chiefly in the Mancos or in the diorite-monzonite, or in both about equally. This is of some significance because veins in the sediments of this region are more continuous than those in the diorites.

There are no maps or other data showing the geology of the mine, and caving and timbering have made all ore-zones inaccessible. Evidence for geologic interpretation is all but unavailable.

The San Bernardo vein occupies a fault fissure, chiefly in the gently dipping Mancos shale. Displacement appears slight, and only strike-slip evidence was observed. The vein strikes about N. 80° W. and dips 60°-70° southwesterly. Width varies from less than a foot up to seven feet. Several vein-splits were seen in the mine, but none have been followed by mining. It is possible that one of these may be the Garibaldi vein which has been prospected at lower levels a short distance southward.

Due to inaccessibility the vein was not observed at any point where it is ore. Where observed it consists of narrow mineralized zones

separated by leaves of altered country rock. The wall-rock is scantily mineralized with finely granular disseminated pyrite.

Ore was examined only outside the mine where several tons are piled beside the compressor house. Galena, coarsely to finely crystalline, is the chief ore mineral. Finely granular freibergite is locally abundant, and honey yellow sphalerite was observed as a minor constituent. Pyrite is common, occurring mainly in pyritohedrons up to one-fourth inch in diameter. Otto Beselack displayed several large samples, extremely rich in pyrargyrite, which reportedly came from the mine.

Quartz is the dominant gangue mineral although siderite and calcite are common.

ORE RESERVES

Since the reportedly ore-bearing stretches of the vein are inaccessible, no direct observations or sampling could be accomplished. Hence, any conception of the amount and value of the ore must be obtained from the past production record, from statements of Otto Beselack, and from the only available assays, all of which are plotted on the stope map (Figure 2). The assays were all taken on the No. 5 level, and, therefore, they present only a two-dimensional picture. It is also highly probable that they do not represent accurately the percentage of metals which would be recovered in milling and smelting the ore. The reserves of ore that may lie immediately below No. 5 level, and above the heading end of No. 5 level, have been calculated. It has been assumed, where assays are not given for the No. 5 level, that all material stoped was ore, and that the material close

below it is also ore. On this basis blocks of indicated and inferred ore were laid out on the stope map, Figure 2. An arbitrary figure of 11 cubic feet per ton was used. Details of calculations are given in Table 1. The ore reserves thus calculated are summarized below:

Indicated ore (Blocks W, X, Y, and Z)	---------	29,139 tons
Inferred ore (Blocks J, K, L, M, N, O, P)	-----	36,504 tons
Total	---------	65,643 tons

This entire structure of calculations is uncertain and may be quite inadequate.

The only block of ore mineable from any present level is block W^1 containing some 7697 tons of ore. The mining of any other block is dependant on the development of a lower level.

There is considerable doubt about the existence of, amount of, and grade of the ore supposedly broken and left in stopes. Caving of the main drift prohibits reaching it until a counter-drift is completed around the caved area. Recovering and marketing this doubtful ore is the core of the Paragon Mining Company's proposal.

According to records the San Bernardo mine from 1902 to the present (See Engineering Report, p. 5) produced 88,781 tons with a present day value of $11.70 per ton. There is no evidence to indicate that ore of higher grade would be found in depth or in any other part of the mine. The Bureau of Mines estimates that present day mining and milling costs on ore produced in the past would be about $17.25 per ton, and it, therefore, seems unlikely that ore can be extracted from the San Bernardo mine at a profit.

The average lead content based on the assays is fair (3.05%, or 61 lbs. per ton), but based on past production the lead content is only 1.594%, or 31.88 lbs. lead per ton. Copper and zinc are so low that they have not been reported (except copper in block W at 0.55% or 11 lbs. per ton).

CONCLUSION AND RECOMMENDATION

In view of the foregoing, the grade and amount of ore on this property is doubtful. It is also doubted that the present mine management is technically able to properly direct the enterprise. Recoveries from past production indicate that an actual loss of $5.55 per ton of ore would result if the ore already produced were being mined and milled today. It is, therefore, recommended that this project be rejected. If Paragon Mines opens No. 5 level so that the reported ore can be reached for examination and sampling, this property might be considered for further study.

PARAGON MINES, INC.
SAN BERNARDO MINE
SAN MIGUEL COUNTY, COLO.

Engineering Report

By F. D. Everett
Mining Engineer
Bureau of Mines

Engineering

PARAGON MINES, INC.
SAN BERNARDO MINE
SAN MIGUEL COUNTY, COLO.

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PARAGON MINES, INC.
SAN BERNARDO MINE
SAN MIGUEL COUNTY, COLO.

ENGINEERING REPORT

By

F. D. Everett

INTRODUCTION

The application of the Paragon Mines, Inc., DMA Docket 542, was for a $50,000.00 exploration loan to open the San Bernardo mine in a program to prove up 100,000 tons of lead-zinc-copper ore. In a field examination of the property by engineers of the Bureau of Mines and geologists of the U. S. Geological Survey, it was revealed that the applicant desired funds for driving from about 200 to over 875 feet of drift in an effort to gain access to the last 875 feet of the fifth level of the San Bernardo mine. The fifth level is 3075 feet long of which the last half is inaccessible due to caving. According to Otto Beselack, the mine manager, $60,000.00 has been spent repairing and retimbering the drift to 1900 feet where a turn-off was made and a new drift started in shale parallel to the old caved drift. The new drift has been driven from 1900 to 2200 feet with three 10-foot crosscuts to the main drift at 100-feet intervals. The main drift may be found open at any distance ahead, or it may be blocked for the remaining 875 feet.

Otto Beselack reports that a shrinkage stope filled with about 5833 tons of broken ore is known to exist between 2400 and 2700 feet from the portal. This broken ore is the first objective of the exploration program. The second objective is to advance to and beyond

the present face of the fifth level where reportedly a 230-foot zone, particularly the last 40 feet, is in good ore.

ACKNOWLEDGMENTS

Acknowledgment is made to Otto Beselack who was courteous and cooperative in showing the mine and mill property to the Defense Minerals Administration examining team.

R. C. Dorsey, mining engineer, Bureau of Mines, and Owen Evans, geologist, U. S. Geological Survey, assisted in the examination.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The San Bernardo mine is in sec. 5, T. 41 N., R. 9 W., San Miguel County, Colo. The mine is near the Matterhorn Station on the Rio Grande Southern narrow-gage railroad, 14 miles south of Telluride and 2 miles southwest of Ophir, Colo. State Highway 145 passes over the property. (Fig. 1).

The railroad operates irregularly between Durango and Ridgway, Colo.; narrow-gage railroad connections are made at Ridgway to Montrose where ore can be transferred to standard-gage cars.

The property is in the San Juan Mountains at an altitude of 9,800 feet. The topography is extremely rugged; the mine is on a north-facing, steep mountain slope about 315 feet vertically above the mill, which is near the center of the valley and 1850 feet northerly by aerial tramway.

The Lake Fork of the San Miguel River flows near the mill in the narrow valley. Water for domestic and milling purposes is piped from a small tributary of this stream. Water is collected in the workings for use in mining.

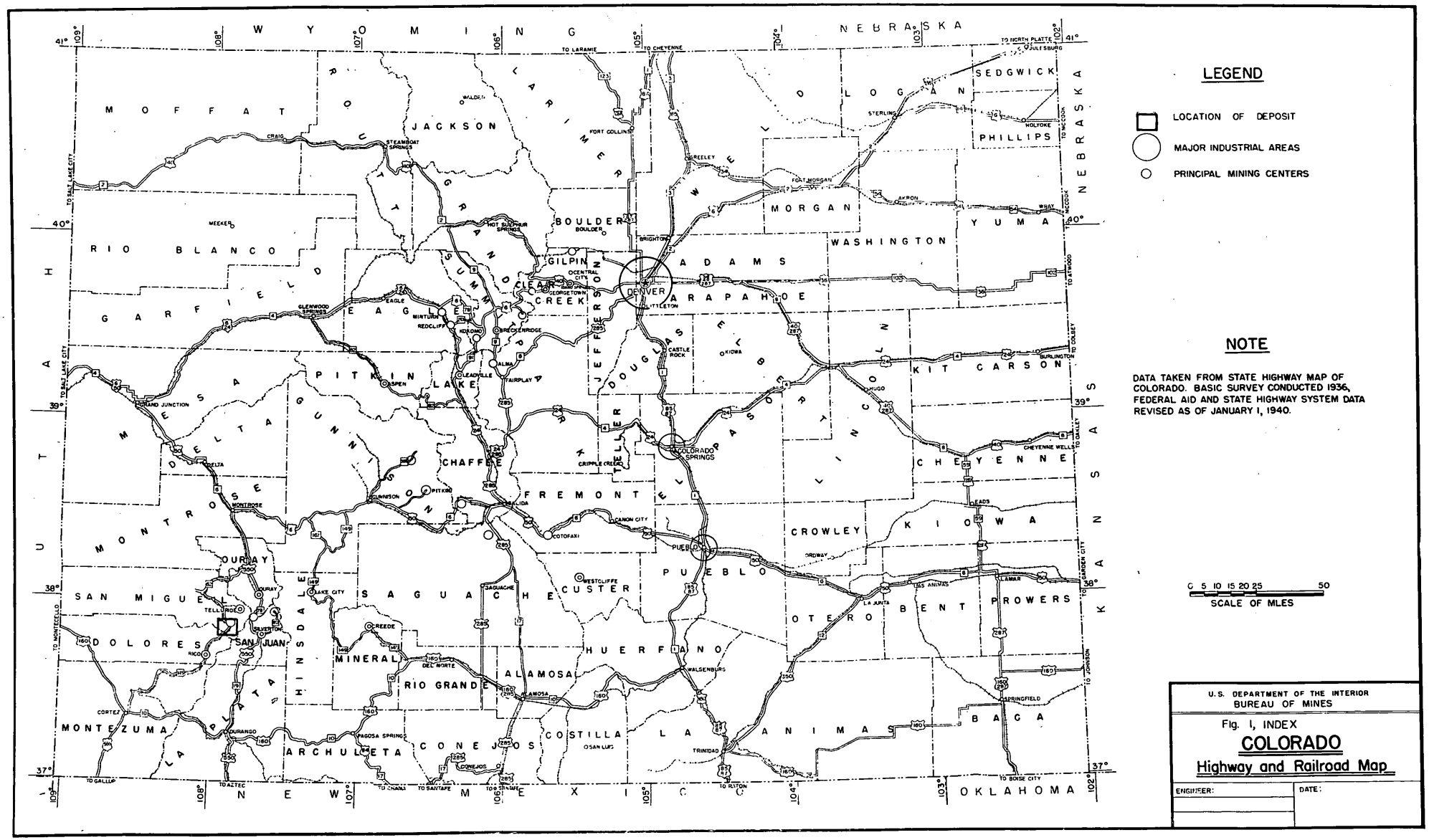


Fig. 1 Location Map Paragon Mines, Inc. San Miguel Co., Colo. DMA 542

Winters are severe and snowfall is heavy. Roads are open throughout the year except for brief periods in winter. In general, year around operations are possible.

HISTORY AND PRODUCTION

The San Bernardo claims were located prior to 1885. Intermittent operations were conducted up to 1919 when the property was acquired by the Otto Mining Company. This company operated between 1920 and 1928 when the property was attached by creditors. The mining and milling equipment was installed during this period. Silver-lead-copper concentrates were produced between 1925 and 1928 and operations were terminated the latter year. Otto Beselack was manager during this period for the company.

Beselack secured a lease and option on the property in 1941 and conducted very limited operations in 1941 and 1942.

The Paragon Mines, Inc., was organized about 1945 and attempts have been made to gain complete access to the fifth or main haulage level in the years since.

Otto Beselack, general manager, of the Paragon Mines, Inc., was unable to produce satisfactory production records. The Economics and Statistics Division of the Bureau of Mines furnished statistics of tons mined and metal produced since 1902. These statistics and the calculated recovered grade of ore are tabulated in table 1.

TABLE 1. - Production from the San Bernardo mine, 1902 to 1942.

Year	Tons ore	Tons conc.	Conc. ratio conc./ore	Ounces Au.	Ounces Ag.	Pounds Cu. Ore	Pounds Cu. Conc.	Pounds Pb. Ore	Pounds Pb. Conc.	Calculated analyses Ounces / ton Au.	Ounces / ton Ag.	Percent Cu.	Percent Pb.
1902	300			30	12,000			300,000		0.30	40.0		50.0
1903	137			-	10,669			14,900			77.8		5.0
1910	7			-	471	254		1,202			67.3	1.8	8.5
1911	84			7	3,435	1,544		58,432		.083	40.77	.9	34.07
1912	47			1	1,780	689		21,098		.021	36.1	.73	22.4
1913	287	41	1:7	3	992		482		16,744	.014	3.46	.08	2.9
	41			1	1,948	1,138		17,944		.024	47.5	1.38	21.9
1916	47			9	2,819	1,047		13,898		.192	59.9	1.11	14.7
1917	74			19	3,671	914		11,965		.257	49.7	.6	8.08
1918	55			6	2,790	1,466		7,517		.109	50.7	1.3	6.8
1919	18			1	1,040	445		5,989		.055	57.8	1.23	16.6
1920	2,180	218	1:10	15	3,938		3,098		14,844	.007	1.8	.07	.34
1921	11,200	2,240	1:5	185	91,819		32,822		413,597	.016	8.2	.14	1.85
1922	11,770	1,217	1:9.7	74	36,247		14,874		279,513	.006	3.08	.06	1.18
1923	28			1	2,287	951		23,275		.03	81.7	1.7	41.55
1924	16			1	438	286		3,495		.06	27.4	.89	10.9
1925	21,140	1,793	1:11.7	211	87,853		35,600		464,000	.01	4.17	.084	1.1
	67			3	3,670	1,000		49,000		.04	54.7	.74	36.6
1926	12,252	1,021	1:12	404	202,076		93,995		704,688	.033	16.5	.038	2.87
1927	27,691	conc.		526	129,391		49,751		376,463	.019	4.67	.089	.67
	8	crude		2	712	378		5,726		.25	89.0	2.3	35.6
1928	1,300	conc.		10.3	4,288		2,087		19,707	.008	3.29	.08	.75
	4	crude		5	1,117	471		587		.125	279.0	58.8	73.5
1941	13	crude		2.5	855	584		2,831		.193	65.7	2.25	10.87
1942	15	crude		2.1	534	221		3,073		.14	39.5	7.03	10.2
	88,781			1,818.9	606,810	11,388	232,709	540,932	2,289,536				
						244,097		2,830,468					

These records have been calculated to a per-ton basis and are summarized in table 2.

TABLE 2. - Summary, production statistics and calculated grade.

	Tons	Ounces Au.	Ounces Ag.	Pounds Cu.	Pounds Pb.
Total tons mined	88,781	1,518.9	606,810	244,097	2,830,468
Average per ton		0.0171	6.83	0.137%	1.594%
Tons shipped crude	961	90.6	50,206	11,388	540,932
Average per ton		0.094	52.24	0.6%	28.14%
Tons concentrated	87,820	1,428.3	556,604	232,709	2,289,536
Average per ton		0.0162	6.34	0.132%	1.30%

The grade of the ore in place would be higher because mill recovery was only about 80 percent of the metals.

OWNERSHIP AND EXTENT

The property consists of 17 patented and 15 unpatented lode claims, a placer claim, and 3 mill sites. The Paragon Mines, Inc., is purchasing these claims, owing $6,500.00 on the property. Operations have been confined to the Homfuras, San Bernardo, and Mosquito claims.

R. V. Adler, Montrose, Colo., is president of the company; J. B. Parks, Montrose, is vice president; Mrs. Otto Baselack is secretary and assistant treasurer; and LeRoy G. Sweet is treasurer. Otto Baselack is manager.

The corporation is capitalized for 300,000 shares of stock at one dollar a share of which the company retains 25,000 shares.

Baselack stated that since the corporation was organized $60,000.00, raised by assessment of the stockholders, has been spent in an effort to reopen the fifth level of the San Bernardo mine.

DESCRIPTION OF THE DEPOSITS

The fifth adit level was driven on an east-west fissure vein through nearly horizontal beds of shale, limestone, and quartzite; diorite-monzonite was encountered in the first part of the fifth level and is indicated on the company map (fig. 2) as being encountered near the end of the fourth level. This intrusive is probably a sill penetrating the Cretaceous sedimentary beds.

The mineralized portion of the vein varies from 1 to 3 feet in width and dips 65 degrees to the south.

According to an early report,[1] the principal ore minerals are galena, sphalerite, pyrargyrite, and chalcopyrite in a gangue of quartz, rhodochrosite, and siderite. Freibergite and pyrite are present as accessory minerals.

The shale walls near the vein probably have a tendency to slough and dilute the ore. In the drift, timbers 20 inches in diameter have been used as stull-type drift caps. The ground did not appear to swell or be particularly heavy.

The drift, recently driven in shale and parallel to the old caved drift, requires no timbering; the old drift, in areas where there is no stoping immediately above it and where the vein is not too wide, appears to stand without any appreciable caving.

The rock is not too hard and can be drilled and broken easily.

ORE RESERVES

There are several blocks of ore left in the mine above the fourth adit level, as indicated on the company map (fig. 2). As these areas were outlined in 1912, they are not considered as available ore reserves.

1/ U. S. Geol. Survey, 18th Annual Report, Part IIIF, 1897.

The principal ore reserves, according to data furnished by Beselack, are from 2400 to 2700 feet from the portal above the fifth level and from 2735 feet from the portal to beyond the face of the drift which is at 3075 feet.

Because of inaccessibility, no samples were taken. Beselack furnished a record of samples taken at random intervals along the fifth level. These samples are of no importance because they represent ore that has been mined above the greater part of the areas involved. However, one 230-foot interval at the end of the level is credited with an 18-inch average width assaying 0.02 ounce gold and 11.35 ounces of silver a ton, 5.35 percent lead, and 0.42 percent copper. Zinc has never been considered. The samples from this interval are not too consistent in that wide widths are averaged with narrow widths and good assays are reported adjacent to much poorer ones.

The indicated ore reserves for the property, calculated according to data furnished by Beselack, are as follows (fig. 2):

Block 1. Broken ore in the stope between 2400 and 2700 feet from the portal above the fifth level, a length of 300 feet with a width of 5 feet:

$$\frac{\text{300 feet by 70 feet by 5 feet}}{\text{broken rock factor 18 cu.ft./ton}} \qquad 5{,}833 \text{ tons}$$

Block 2. Ore in place between 2835 and 3175 feet from the portal above the fifth level, a length of 340 feet with a vein width of 1-1/2 feet:

$$\frac{\text{340 feet by 100 feet by 1-1/2 feet}}{\text{factor for ore in place 11 cu.ft./ton}} \qquad 4{,}636 \text{ tons}$$

One-third of the block will probably be barren; as the mineralized zone is only 1-1/2 feet wide, there will

be at least 100 percent dilution of which 25 percent can be removed by sorting, leaving 4,636 tons.

Block 3. Ore in place, 100 feet below the fifth level between 1300 and 3175 feet from the portal, a length of 1875 feet with an average width of 3.35 feet:

$$\frac{1875 \text{ feet by } 100 \text{ feet by } 3.35 \text{ feet}}{11} \qquad 57,102 \text{ tons}$$

This block will probably be at least one-third barren and, as mined, will have at least 50 percent dilution of which 15 percent can be removed by sorting, leaving 48,537 tons. Considerable development work must be done before block 3 will be available for mining.

The ore blocks above the fifth level will be mined before any ore below the level is considered.

Indicated Ore

Block 1	5,833 tons
Block 2	4,636
Block 3	48,537
Total	59,006 tons

Total indicated ore in blocks 1, 2, and 3 is considered as 59,000 tons.

The average grade of the 87,820 tons of ore previously milled plus 961 tons of direct shipping ore, probably highly sorted, recovered an average of 0.016 ounce of gold and 6.34 ounces of silver a ton, 0.137 percent copper, and 1.59 percent lead (see "History and Production"). This grade should be representative of the recoverable metal content of the ore reserves.

Increased ore reserves may be expected along the continuation of the vein, but, as this area was apparently unproductive in the upper levels of the old workings, no ore can be credited to this area beyond 100 feet of the face of the fifth level. Improved metallurgical processes developed since 1928 may result in better mill recovery.

The shrinkage method of mining was utilized between the fourth and fifth levels and probably resulted in 100 percent dilution. A cut-and-fill method of mining where ore and waste are mined separately in narrow mineralized widths might result in higher-grade mill heads, but the mining cost would be proportionately increased.

Most of the 59,000 tons of indicated ore reserves are below the fifth level which would require considerable development before mining. The ore reserves above the fifth level having a good chance of being available are those near the end of the fifth level and the reported stope of broken ore between 2400 and 2700 feet from the portal. The broken ore in this stope is likely to be too highly diluted from the incompetent shale walls near the vein to be considered, and, if found available, its recovery will be costly.

PRESENT STATUS

Development

The San Bernardo mine is developed from five adit levels (fig. 2). The fifth level is the lowest from which ore has been extracted and is the only level that can be safely entered. A lower tunnel, the Garibaldi, which is not part of the property of the Paragon Mines, Inc., has a crosscut to the San Bernardo vein and a raise to the fifth level. These workings are inaccessible.

The fifth level of the San Bernardo mine is open for 1900 feet and a new drift in shale parallels the old caved main level drift to 2200 feet from the portal. No crosscuts or drifts have been presently driven from the parallel drift back to the main level.

The small seepage of water in the drift ultimately flows down the raise connecting the Garibaldi level. There is adequate water for mining.

Mining Equipment, Tramway, and Buildings

The equipment at the mine consists of an old Ingersol Rand, Imperial No. 10, compressor installed about 1920. This piece of equipment, although antiquated, appears to be in surprisingly good condition, being well-oiled and free of rust and corrosion. The rated capacity is slightly over 500 c.f.m., and, at its present efficiency, it could probably deliver 400 c.f.m. at 85 pounds pressure. The compressor is driven by an electric 75-horsepower motor. The company owns three drifting machines, two of which are old but usable (IR 30), complete with columns and clamps. Track is laid in the fifth level of the mine for 2200 feet. If the old drift is not caved for its entire length, there is additional trackage available there, as it is reported to not have been removed. A 3-inch air line extends for 1900 feet and 2-inch for the remaining 300 feet. There are 7 mine cars and a few small tools. A horse pulls the cars in and out of the mine.

An 1850-foot tramway with two riding cables 1-1/4 inches in diameter and a 9/16-inch diameter power cable is used to transport the ore from the mine to the mill. Two 1000-pound buckets are used

with the tramway, each having a capacity of about 2000 pounds. The average load is about 1600 pounds per bucket and the tramway can transfer 20 tons an hour. The cables are rusted but otherwise appear in good condition. A 5-horsepower electric braking motor controls the tramway. A service tramway about 800 feet long is used to transport supplies from the valley floor to the mine. It has two ride cables and one pull cable. A 15-horsepower electric motor powers this system.

A compressor building, sheet aluminum snowshed, 3-horse barn, 300-ton ore bin, and supply tram building constitute the mine buildings. Three houses, equipped for hot and cold running water, are near the state highway. Beselack lives in one of these houses. Two very old buildings, in dire need of repairs, have served as a bunkhouse and boardinghouse; no need is anticipated for these buildings. Other structures in various states of repair constitute what was once the community of Matterhorn.

Mill Equipment and Facilities

An old, but usable, mill is in the valley, just off the highway. The mill was formerly on a spur of the railroad, but the rails have been removed. It would require little work to replace them and make connections with the main line of the railroad. The inside of the mill appeared to be in good condition, provides ample space, is well planned, and adequately equipped. Machinery is well oiled and shows no signs of deterioration. Provisions could easily be made for zinc flotation. A jig has been added since the mill last operated.

Mineral separation type flotation cells are old and obsolete and probably should be replaced. Heating facilities are provided. A flow sheet of the mill is shown on figure 3.

Ore and concentrates were formerly shipped to the American Smelting and Refining Company smelter at Durango, Colo., but this smelter has been dismantled and lead concentrates will probably be shipped to the American Smelting and Refining Company smelter at Leadville, Colo. Zinc concentrates will go to smelters either at Amarillo, Texas, or Tooele, Utah.

Electric power is furnished by the Western Colorado Power Company. A line carrying 11,000 volts is transformed to 440 volts at the property. The transformers belong to the mining company.

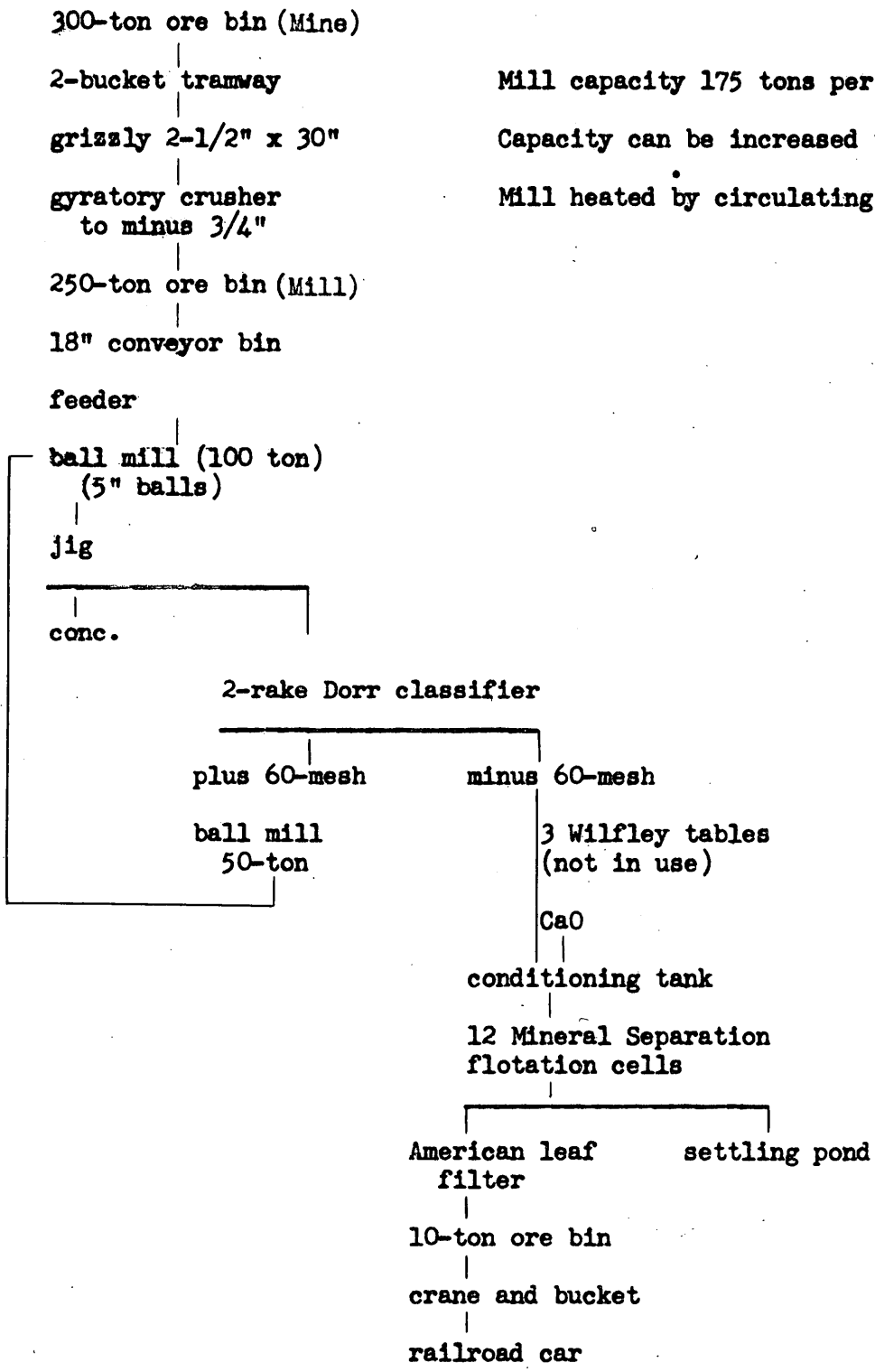
PROJECT PROPOSALS, WITH COSTS

Exploration and Development

Company Proposal

The loan application was for $50,000.00 to open the workings at the San Bernardo mine, which would yield 100,000 tons of ore valued at $25.00 a ton, or better. The first objective was to develop an ore body of about 20,000 tons whose existence is stated as being positive. The second objective was to prove 40,000 tons of ore by continuation of the fifth level and to open stopes above the level.

Operating costs are stated to be $3,000 a month and 50 percent, or the applicant's share of matching funds, would be provided by renting company equipment to the project for $1,000.00 a month and by providing $500.00 cash a month.



Mill capacity 175 tons per day

Capacity can be increased to 500 tons

Mill heated by circulating steam

Fig. 3--Flowsheet of San Bernardo Mill, Paragon Mines, Inc., DMA Docket 542

Engineer's Proposal

Specifically, the program involves drifting parallel to the old drift from 2200 feet to 2500 feet from the portal of the fifth level with 5- to 10-foot crosscuts to determine if the main drift is open. If the main drift proved to be open within 300 feet of drifting, a shrinkage stope, located between 2400 and 2700 feet from the portal and reportedly filled with broken ore, could be drawn and milled. This assumes that the filled stope would offer protection to the drift timbers and prevent the main level from caving. In this event, the main drift would probably be found open to the end at 3075 feet and, with the exception of clean-up work, would be ready for use in mining virgin ore reportedly existing from 2845 feet to the end of the main level drift and beyond. If the main level drift is found to be caved at 2500 feet, drifting would continue in shale to a point where it is found open, or to and beyond the end of the level. It is assumed that the main level drift will be open beyond the end of the stoped area, near 2800 feet from the portal, and there is a possibility that it may be open from 2400 feet.

The overall cost for drifting is estimated at $35.00 a foot. The cost of the project is estimated in two proposals as follows:

1. Drifting, 2200 to 2500 feet with three 10-foot crosscuts (330 feet at $35.00)	$11,550.00
Rehabilitation of 575 feet of drift (2500 to 3075 feet)	3,450.00
Total	$15,000.00
2. Drifting 2200 to 2800 feet with six 10-foot crosscuts (660 feet at $35.00)	$23,100.00
Rehabilitation of 275 feet of drift (2800 to 3075 feet)	1,900.00
Total	$25,000.00

New Equipment and Facilities

No new equipment would be required. All facilities are intact. Roads are adequate. Power facilities are available and power costs are estimated at $40.00 a month for drifting and $1,500.00 a month for mining and milling. There is ample water for mining, domestic use, and milling. Tramway facilities are available for delivery of equipment and supplies to the mine and for ore to the mill. The ore bin at the mine is in need of repair but that is of no concern to the exploration project.

Manpower

Beselack states that labor drifting contracts can be made for $15.00 a foot in shale. Miners' wages are $1.50 an hour and muckers' wages are $1.35 an hour. Labor supply is limited but can probably be obtained at either Ophir or Telluride. Otto Beselack will supervise the work at no charge to the project.

PRODUCTION PLAN

Time Schedule for Project Completion

An estimated six months will be required to complete part 1 of the project proposed by the examining engineer and one year for part 2.

Rate of Production

The rate of production after completion of the project would be dependent upon the number of men hired to mine ore. The mine has produced as high as 125 tons a day for an extended period. About 40 tons a day is the maximum rate of production considered possible with the mine in its present state of development.

A ton of ore having the average recoverable value of 0.0171 ounce gold and 6.83 ounces of silver a ton, 0.137 percent copper, and 1.594 percent lead would yield 2.74 pounds of copper and 31.88 pounds of lead. The value of the recovered metal at $31.00 an ounce for gold, 85 cents an ounce for silver, 19 cents a pound for copper, and 15 cents a pound for lead would be about $11.62. The amount of zinc is not known but would probably average 1.0 percent. If a separate zinc concentrate were made with a recovery of 1.0 percent, or 20 pounds of zinc, the net value of the ore before mining and milling would be about $14.50.

Mining Methods and Costs

The shrinkage stope mining method is assumed to be applicable. As the mineralized portion of the vein averages only about 18 inches, and because of incompetent stope walls, the mining width will be at least 36 inches. About 25 percent of the barren waste can probably be sorted from the material mined.

Mining costs are estimated as follows:

Mining	$ 6.00
Sorting	1.50
Tramming	1.00
Development	2.00
Total	$10.50

Milling Methods and Costs

The mill has not been operated since 1928. Provision must be made for making a zinc concentrate. A competent metallurgist must be obtained, at least to work out an efficient process and to train personnel. As the equipment is old, high repair costs can be expected. Concentrates must be shipped to Leadville which is 211 miles by road.

Milling costs are estimated as follows:

Milling	$3.50
Transportation of concentrates to Leadville, Colo., including transfer from narrow-gage to standard-gage cars, per ton crude ore	1.00
Total	$4.50

Smelting Methods and Costs

The ore would be shipped to the American Smelting and Refining Company smelter at Leadville and classified under a lead concentrate schedule. All gold would be paid at $31.82, 95 percent of the silver at 90 cents, deduct 1 unit of copper and pay the remainder at 19 cents a pound, and deduct 1-1/2 units of lead and pay for 90 percent of the remainder at 15 cents. A base charge of $9.00 is made for treatment.

As the concentration ratio is between 10 and 12 to 1, a convenient charge of $1.25 is made for additional deductions and treatment charges per ton of crude ore.

Miscellaneous Costs

Taxes and insurance charges will be about 10 cents a ton. There is no direct royalty charge, but $6,500.00 is owed on the property and $4,000.00 is outstanding in small obligations. Repayment of these sums would represent a minimum charge of about $1.00 a ton.

Total miscellaneous charges are estimated at $1.10 a ton.

SUMMARY: COST OF PROJECT

The capital requirements are summarized for the two proposals as follows:

1. Drifting, 330 feet at $35.00	$11,550.00
Rehabilitation of 575 feet of drift	3,450.00
Total	$15,000.00
2. Drifting, 660 feet at $35.00	$23,100.00
Rehabilitation of 275 feet of drift	1,900.00
Total	$25,000.00

The operating costs per ton are summarized as follows:

Mining, sorting, tramming, and development	$10.50
Milling and shipping concentrates	4.50
Smelting	1.25
Miscellaneous, taxes, payment of property and debts	1.10
Total	$17.35

The value of the ore is estimated at $11.60 with no consideration for zinc, or $14.50 if there is 1.0 percent zinc which can be recovered in a separate concentrate.

A loss of $2.85 a ton is indicated.

PROPOSED FINANCING

The company proposes to rent equipment to the project for part of the matching funds. The remaining portion of funds will be supplied by cash.

The monthly rental value of the equipment to apply toward the cost of the project as appraised by the examining engineer is itemized as follows:

	Per month
Compressor, about 30 years old, I. R. Imperial No. 10, approximately 550 c.f.m. as rated, delivering about 400 c.f.m.	$400.00
Two DA 30 I. R. drifters (only one needed)	30.00
Service tramway ($350.00 value)	30.00
Seven mine cars ($700.00)	56.00
Air receiver ($400.00)	30.00
Horse ($60.00)	10.00
Power transformers, 3 30-k.v.a. single phase 12,000 - 440 volt ($2,000.00)	160.00
Total	$716.00

The project costs are estimated at $2,500.00 a month. Beselack indicated the company could supply about $500.00 a month.

As a profit is not indicated, no provisions are made for repayment other than the provisions in the Defense Minerals Administration contract.

CONCLUSIONS

The evaluation of the San Bernardo mine is based entirely on past production records of the Bureau of Mines and statements and records by Otto Beselack. The only available map is an old longitudinal section and the data presented thereon cannot be verified.

A few sample records were supplied of the caved portion of the drift, many of which show a higher value than is represented by the average grade of the known production; the samples cannot be checked or substantiated other than by statements contained in old reports.

The possibility exists that, with care in mining, sorting, and improved milling practices, the recovered metal content of the ore could be increased.

The following conclusions are offered:

1. There is a possibility that the fifth level will be found open within 300 feet and almost certainly within 600 feet.

2. Three blocks of ore are indicated, totaling 59,000 tons with an average recoverable grade of 0.017 ounce gold and 6.83 ounces of silver per ton, 0.137 percent copper, and 1.59 percent lead. Recoverable zinc is estimated at 1.0 percent.

3. The mining and milling equipment owned by the company is adequate and in good condition.

4. The time necessary to complete a project for (1) drifting 330 feet and rehabilitating 575 feet of drift is six months and for (2) drifting 660 feet and rehabilitating 275 feet of drift is one year.

5. The cost of proposal (1) is $15,000.00 and (2) is $25,000.00.

6. Otto Rusclack has managed operations since 1920 but if the mine is reopened there is a definite need for technical assistance both in the mine and mill.

RECOMMENDATIONS

In view of the low copper-lead-zinc content of the reserves, a profitable operation is not indicated. Therefore, the request for a Defense Minerals Administration exploration loan should be denied.

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

DIRECTOR
OFFICE
REGION IV
FEB 18 1952
BUREAU OF MINES
DENVER, COLORADO

FEB 7 1952

Mr. Otto Beselack, Manager
Paragon Mines, Inc.
Ophir, Colorado

Re: Docket No. DMA-542
San Bernardo Mine

Dear Mr. Beselack:

We have carefully considered your modified application for exploration assistance in driving a drift around the caved section of the #5 level tunnel and rehabilitating additional sections of the tunnel.

In our opinion the proposed work is essentially preparatory to extraction of the blocked out and partially broken ore existing in stopes above this level and that data derived from the proposed work will not materially add to the information presently available.

Mineral Order-5 states that the Government shall not participate in work prosecuted primarily for mining or preparation for mining and shall not go beyond discovery and reasonable delineation. Under these regulations, therefore, we are unable to approve your application for exploration project assistance.

Sincerely yours,

C. O. Mittendorf

Acting Administrator,
Defense Minerals Exploration
Administration.

W.H.K. 37.5

DEHoulds/hmj
2-1-52
cc to: Adm. R. File
Docket File Copy
Mr. Bishop
Mr. McKnight
Mr. Houlds
Region IV (2)

already recorded — copy from Admin 9-12-57

Field Copy

OFFICE DIRECTOR IV
FEB 18 1952
APR 20 1952

Hon. Ed C. Johnson,
Hon. Eugene D. Millikin,
United States Senate
Washington 25, D. C.

Re: Docket No. DMA 542
Paragon Mines

Dear Senators Johnson and Millikin:

Reply to your letter of December 21, 1951, concerning the application of the Paragon Mines, Inc. for exploration assistance has been delayed pending review and decision relative to the applicant's request for reconsideration on a modified project.

The initial application for exploration project assistance in the amount of $50,000 for driving new drifts and rehabilitating old drifts in the San Bernardo Mine was denied on September 12, 1951, the reason for denial being that the proposed development work would open up 60,000 - 65,000 tons of ore which could not be profitably mined and milled.

On November 3, 1951 the applicant requested reconsideration on a modified project amounting to $15,000 and stated: "This amount should get us into the ore and to the point of production and prove that we have pay ore".

The work proposed for this project consists of driving a drift parallel to and approximately 10 feet distant from the caved #5 level adit until the adit is found, by crosscutting, to be sufficiently open to rehabilitate. The available information at hand indicates that the proposed work consists entirely of rehabilitation of an existing haulage drift either by cleaning up the old drift or driving around caved areas with the objective of drawing previously broken ore in stopes and stoping blocks of unmined ore. This ore has been sampled and blocked out as indicated on a stope map and the proposed work of drifting and rehabilitation does not appear to investigate either new ground or new ore possibilities in the mine.

The modified application of the Paragon Mining Company does not change the objective of original proposal. The work is indicated to be entirely preparation for mining of ore reserves and as such does

not qualify under Section 7 (a) Mineral Order 5. The modified application is therefore necessarily denied under the working regulations governing the exploration program.

A copy of the letter informing Mr. Otto Beeslack of this action is enclosed for your information.

Sincerely yours,

C. O. Mittenderf

Acting Administrator
Defense Minerals Exploration
Administration

Enclosure

DEMoulds/hmj
2-14-52
cc to: Adm. R. File
Docket File Copy
Mr. Bishop
Mr. McKnight
Mr. Moulds
Region IV

J.F.S.
WED

SEP 18 1951 L-542

REGIONAL DIRECTOR'S OFFICE
REGION IV
SEP 17 1951
BUREAU OF MINES
DENVER, COLORADO

Mr. Otto Geselack, Manager
Paragon Mines, Incorporated
Ophir, Colorado

Dear Mr. Geselack:

Your application (L-542) for an exploration loan for rehabilitation and exploration work at the San Bernardo Mine, San Miguel County, Colorado, has again been reviewed by the Defense Minerals Administration after receipt of the report based upon an examination by our field staff.

From this report, we conclude that, although the work which you propose might develop a tonnage of indicated ore, the grade of the ore is not high enough, under existing facilities and methods, to be mined profitably. The percentage of lead in the ore is too low to give any significant production of this metal. In view of this fact, we do not believe that the expenditure of public funds which you request is warranted. I regret, therefore, that your application cannot be approved.

We wish to thank you for bringing this property to our attention.

Very truly yours,

Tom Lyon

Tom Lyon, Director
Supply Division

ABCampbell:emp
G 9-7-51
Copies to: J. H. East, Jr. Region IV (2)
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
R. M. Mote
Directors r. files 4214 GSA
Br. r. files 4214 GSA
Administrators r. file
DMA docket files

REGIONAL DIRECTOR'S OFFICE REGION IV SEP 17 1951 BUREAU OF MINES DENVER, COLORADO

SEP 12 1951

Memorandum

Re: DMA-542
San Bernardo Mine
San Miguel County, Colorado
Exploration loan, $50,000
Lead, zinc

To: Reports and Records Unit
Administrative Management Div.

From: Chief, Lead-Zinc Branch

Subject: Denial of exploration loan

The applicant has requested an exploration loan of $50,000 (Government participation, $25,000), for driving new drifts and rehabilitating old drifts in the San Bernardo Mine, San Miguel County, Colorado.

A report of an examination of the mine by the Field Team, Region IV, recommends that the loan be denied. Although the proposed development work would open up from 60,000 to 65,000 tons of indicated ore, a cost analysis by the field team revealed that a loss of $2.85 per ton would result from the mining and milling of this ore. The grade of the indicated ore was based entirely on past production records of the Bureau of Mines and statements and records by the applicant, for the mine workings were not accessible for sampling. The average recovered grade of the mine production since 1902, as calculated from Bureau of Mines' records, is 0.017 oz. gold, and 6.83 oz. silver per ton, 0.13% copper and 1.59% lead. Recoverable zinc is estimated at 1.0%.

The Lead-Zinc Branch concurs with the field team's recommendation that the loan be denied.

Returned herewith are:

1 Copy loan application
1 Copy field team report
correspondence to and from applicant.

JZL JNE

J. R. Billings, Chief
Lead-Zinc Branch

Approved:

Tom Lyon

Director, Supply Division

ABCampbell:emp G 9-7-51

Copies to: J. H. East, Jr. Region IV (2)
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
R. H. Mote
Directors r. files 4214 GSA
Br. r. files 4214 GSA
Administrators r. file

August 9, 1955

Memorandum

To: Louise Sterbal, Executive Secretary
Defense Minerals Administration

From: Eric Field Team, Region IV

Subject: DMA Project 525, Sunnyside Mines, San Juanita Mine, San Miguel, County, Colorado

Enclosed herewith is original and two copies of the report as indicated above.

We concur with the conclusions and recommendations of the consulting team.

F. T. Allison, Chairman

A. K. [illegible]

Enclosures
One copy by Air Mail
Two copies by Regular Mail

Ed

cc: File

RFC New Customhouse
Denver 2, Colorado

July 28, 1952

Memorandum

To: RFC Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: RFC Contract 3&3, Final Report, Oregon Mines, Inc., Gem Bonanza Mine, San Miguel County, Colorado.

The applicant requested a $50,000 exploration loan for the purpose of opening old workings in the Gem Bonanza Mine, with the objective of proving 100,000 tons of ship-load ore. The workings are inaccessible and no dumping was done, but the consulting team estimate the indicated ore above the level at 79,000 tons, with an average unit content of 0.064 ounces gold, 6.34 ounces silver, 1.37 percent lead and 0.137 percent copper, based on pulpers of pack production.

The consulting engineer estimated that the proposed work could be done at a cost not exceeding $35,000. Due to the low estimated grade of the ore, operations would be marginal, and they recommend denial of the application.

In accord with this recommendation, although this is one of those marginal projects which might produce appreciable lead and gold.

Paul T. Allman

Jub.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

OFFICE OF
REGIONAL DIRECTOR

REGION IV

224 NEW CUSTOMHOUSE
DENVER 2, COLORADO

June 1, 1951

Mr. Otto Beseluck, Manager
Paragon Mines, Inc.
Ophir, Colorado

Dear Mr. Beseluck:

Mr. A. T. Sweet has forwarded us your letter dated May 21, 1951 for reply. Also, we have a copy of Mr. Tom Lyon's letter to you in reference to your application DMA-542.

An engineer will be sent to your property in the near future.

All correspondence relating to the Defense Minerals Administration and exploration loans should be directed to this office rather than to Mr. Sweet.

Sincerely yours,

J. H. Earst

J. H. Earst, Jr.
Regional Director

JH:ln

bcc: [illegible] Allaman
[illegible] Traver
[illegible] Sweet

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : J. H. East Jr. Dir IV

DATE:

FROM : Colo Field Office

SUBJECT: attached letter

REGIONAL DIRECTOR'S OFFICE
REGION IV
MAY 31 1951
BUREAU OF MINES
DENVER, COLORADO

Dear Jack:-

Because this letter appeared at this office, I am forwarding to you. Not claiming any virtue as a mediator or other for that matter but here it is

Cindy

Transfer copy with such engineer to visit property

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

Mr. Otto Beselack, Manager
Paragon Mines, Incorporated
Ophir, Colorado

Dear Mr. Beselack:-

Your letter of April 26 indicating your willingness to participate in the exploration program has been received.

Your application(DMA-539) has been sent to Mr. John H. East, Jr., Executive Officer of the field Team, 224 New Customhouse, Denver, 2, Colorado, for further information and advice.

Very truly yours,

Tom Lyon, Director

Supply Division.

COPY

PARAGON MINES, INC.
OPHIR, COLORADO

21st May, 1951

Mr. A. T. Sweet,
1127 Washington St.,
Denver, Colorado.

Dear Friend Andy:-

Enclosed is a copy of a letter I just received last night from Mr. Tom Lyon, D. M. A. Supply Division.

I believe you told me that you and Mr. East were very good friends, so I would like to ask you to see if you can have this pushed through his office. If we can get the help right away then we can get into milling operations some time this summer. Shpuld there be anything else they want I will come to Denver and give it if I can.

I will appreciate your getting after this right away. With kindest regards from Mrs. Beselack and

Yours sincerely,

Otto Beselack

May 22, 1951

Memorandum

To: A. H. Koschmann
P. T. Allsman

From: Field Team, Region IV

Subject: DMA-342 - Paragon Mines, Inc., Ophir, Colorado

The brochure on the above docket and accompanying correspondence from the Coordinating Committee, DMA, has been reviewed by Allsman and is being submitted to Mr. Koschmann, who will assign a geologist to go with an engineer, to be assigned by Mr. Trover, to make a geologic appraisal and conduct the suggested negotiations with the operator.

Paul T. Allsman
Paul T. Allsman, Alternate

A. H. Koschmann
A. H. Koschmann

CC: W. H. Trover, Jr.

PTA:fm

DMA File

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

REGIONAL DIRECTOR'S OFFICE REGION IV
MAY 21 1951
BUREAU OF MINES DENVER, COLORADO

MAY 17 1951

Memorandum

To: Executive Officer of Field Team, Region IV

From: Coordinating Committee

Re: Docket DMA-542

Subject: Application of Paragon Mines, Inc. Ophir, Colorado

Commodity: lead, zinc, copper

The Lead-Zinc Branch has reviewed the application submitted by Otto Beselack in behalf of Paragon Mines, Incorporated for a loan of $50,000 to open up the San Bernardo mine in San Miguel County, Colorado.

The San Bernardo mine last produced in 1927. The final shipment of concentrates from the mine averaged 0.063 oz. Au, 228.589 oz. Ag, 38.076% Pb, and 4.84% Cu. Apparently no assay was made of the zinc.

The mine is developed on a vein in a fault fissure which cuts horizontal shale beds. There are five levels developed. According to the applicant the vein in the face of level No. 5 is over three feet wide and assays .03 oz. Au, 55.6 oz. Ag, 10.7% Pb, and 2.52% Cu. per ton.

Although the applicant does not present specific plans, he would like to participate in a $50,000 exploration program to prove up about 100,000 tons of ore. The program apparently would cost $3,000 per month and the applicant proposes to meet his share of the expense each month by a $1,000 rental charge for equipment and $500 cash.

The Lead-Zinc Branch recommends that a geological examination be made of the property. If this examination indicates that an exploration project is desirable, a conference should be held with the applicant regarding his specific proposals. If these proposals meet with the approval of the field team as to method, cost, etc., as many of the negotiations as possible needed for completion of the contract should be made.

Sam Lyon
Chairman

Approved:
DMA Coordinating Committee

Lowell B. Moon
L. B. Moon

for TP Thayer
Olaf N. Roye

MAY 17 1951

Memorandum

To: Executive Officer of Field Team, Region IV

From: Coordinating Committee

re: Docket DMA-542

Subject: Application of Paragon Mines, Inc. Ophir, Colorado

Commodity: lead, zinc copper

The Lead-Zinc Branch has reviewed the application submitted by Otto Beaslack in behalf of Paragon Mines, Incorporated for a loan of $50,000 to open up the San Bernardo mine in San Miguel County, Colorado.

The San Bernardo mine last produced in 1927. The final shipment of concentrates from the mine averaged 0.063 oz. Au, 228.589 oz. Ag, 38.076% Pb, and 4.34% Cu. Apparently no assay was made of the zinc.

The mine is developed on a vein in a fault fissure which cuts horizontal shale beds. There are five levels developed. According to the applicant the vein in the face of level no. 5 is over three feet wide and assays .03 oz. Au, 35.6 oz. Ag, 10.7% Pb, and 2.52% Cu. per ton.

Although the applicant does not present specific plans, he would like to participate in a $50,000 exploration program to prove up about 100,000 tons of ore. The program apparently would cost $3,000 per month and the applicant proposes to meet his share of the expense each month by a $1,000 rental charge for equipment and $[illegible] cash.

The Lead-Zinc Branch recommends that a geological examination be made of the property. If this examination indicates that an exploration project is desirable, a conference should be held with the applicant regarding his specific proposals. If these proposals meet with the approval of the field team as to method, cost, etc., as many of the negotiations as possible needed for completion of the contract should be made.

EJLyons:emp G 5/3/51

Copies to: J. H. East, Jr. Region IV
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
L. B. Moon
R. H. Mote
L. F. Strobel
T Lyon
Files

E. J. Lyon
Chairman

Approved:
DMA Coordinating Committee

L. B. Moon
L. B. Moon

Olaf K. Hove

MAY 17 1951

Mr. Otto Haselack, Manager
Paragon Mines, Incorporated
Ophir, Colorado

Dear Mr. Haselack:

Your letter of April 26 indicating your willingness to participate in the exploration program has been received.

Your application (DMA-542) has been sent to Mr. John H. East, Jr., Executive Officer of the Field Team, 224 New Customhouse, Denver 2, Colorado, for further information and advice.

Very truly yours,

Tom Lyon, Director
Supply Division

EJLyons:emp
G 5/3/51
Copies to: J. H. East, Jr. Region IV (2)
Chief, Lead-Zinc Br.
E. T. McKnight 4204 GSA
L. B. Moon
R. H. Mote
L. F. Strobel
T. Lyon
Files

January 24, 1951

Mr. Otto Bonalack
Manager, Paragon Mines, Inc.
Ophir, Colorado

Dear Mr. Bonalack:

This will acknowledge receipt of your letters of January 15 making application for a Government mining loan in connection with the San Bernardo mine and mill.

Your application is being forwarded to the Defense Minerals Administration in Washington, D.C. for consideration.

Sincerely yours,

J. H. East, Jr.
Regional Director

/el

cc - PT Allaman
MGTraver
DMA files
Chron.
JH East files ✓

PARAGON MINES, INC.
OPHIR, COLORADO

January 15th, 1951

Mr. J. H. East, Jr.,
Regional Director, Bureau of Mines,
224 New Customhouse,
Denver 2, Colorado.

Dear Mr. East:-

With reference to our application for a mining loan, you will find enclosed data on one of our properties which has produced considerable ore in the past and has considerably more already developed and in sight. However, we cannot get to that ore without running a drift around an old caved-in stope which blocks the main haulage tunnel and we are now drifting around it, but lack of sufficient funds, the progress is slow.

Our mill can be put into operation on very short notice.

We would like to apply for a loan of $50,000.00, such an amount will put us on a sound production basis and until such time as we will receive returns from our shipments of concentrates.

The money to be used for pay roll and supplies to complete the work of opening up the mine to get at the ore. We now have six men at work, and within three to four months this work can be completed. Then we will put on a larger crew of miners and also mill men to start mining and milling operations.

The repayment of the loan can be started as soon as the returns from our concentrates accumulates a fund over that needed for operating expense.

If we can get financial assistance right away we can get into milling operations in a very short time.

Trusting that our application will receive favorable consideration and that we will hear from you soon, we remain,

Sincerely yours,

Paragon Mines, Inc.

Otto Besslack Manager

-DATA-

OF REAL ESTATE, MINING PROPERTY, MILL, IMPLEMENTS, IMPROVEMENTS AND PERSONAL PROPERTY ON THE SAN BERNARDO AND VALLEY VIEW GROUPS OF MINING PROPERTY.

LOCATION: The mine and mill are situated at Matterhorn, San Miguel County, Colorado, a station on the Rio Grande Southern Railway, 14 miles south of the mining town of Telluride, and about 400 miles southwest of Denver by railroad.

The mill building is within a few feet of the main line of the railroad. A spur siding has ample room to allow several cars to be placed in front of the supply bins, and loading tramway.

The mine is connected with the mill by means of an aerial tramway 1800 feet in length. No. 5, the lowest level of the mine is 10,000 feet above sea level, and 400 feet above the railroad track at the mill.

The Lake Fork of the San Miguel River, flows near the mill, though most of the water for milling purposes comes from a small tributary of this stream.

The above groups of properties consist of 32 lode mining claims, one placer mining claim and 3 mill sites, all duly recorded on the public records in the office of the County Clerk of San Miguel County. Colorado.

GEOLOGY: The geology of the district is so well described in the Telluride folio No. 57 of the U. S. Geological Survey, and in the preliminary report of the mining industries of the Telluride quadrangel included in the 10th annual report of the U. S. G. S. that suffice to state that the vein is a fault fissure cutting the shale beds in an easterly westerly direction. An intrusion of diorite monzonite occurs on No. 4 level but is not disclosed on the level below. The level No. 5 is driven in diorite monzonite for a distance of 920 feet from the portal, when lime shales are intersected. the remainder of the 3100 feet to the breast of No. 5 level is driven in shales, some sections of which appear to be high in lime. The diorite monzonite intrusion on level No. 4 apparently cut out the ore, while ore is found in a similar formation on No. 5 level. There are indications that the main vein on No. 4 level was not followed westerly from the Para stope, in which event the absence of ore in the diorite intrusion on No. 4 level would have little significance. Furthermore, the shales are in place some distance below No. 5 level, though the depth of the contact is difficult to determineGeological mapping indicates that this contact should have been above No. 5 level.

The apex of the vein in its westerly course from the Mosquito claim is covered by claims 1200 feet wide and 7500 feet long. The past operations have been confined to the Honduras, San Bernardo and Mosquito claims.

TOPOGRAPHY: The Lake Fork of the San Miguel river flows through a deep valley, the mountains rising on each side to a height of 2500 feet above the stream.

Some of the claims are covered with timber, which could be utilized for mining operations.

VEIN: The vein is a fault fissure having an easterly-westerly strike and dipping 60 to 70 degrees south. The width varies from eight inches to seven feet.

The minerals are gold, silver, sulphides of lead, copper,

zinc, iron, and small quantities of arsenic and antimony. Gray copper associated with silver, also Ruby silver are found in many places in the vein.

The gangue is quartz, some calcite, also sandy calcareous shales.

The horizontal shale beds are cut through by the vein, the plane of which is at an angle of 65 to 70 degrees from the horizontal.

The continuity of the ore is excellent.

DEVELOPMENT: The mine workings consist of five adit levels, the main workings and haulage level being at an elevation of 10,000 feet above sea level, and less than 400 feet above the mill. The breast of this level is at 3075 feet from the portal.

No. 4	level is	225	feet	above	No. 5,	level,	in 2450	feet
3	"	190	"	"	No. 4	"	1540	"
2	"	110	"	"	No. 3	"	1200	"
1	"	90	"	"	No. 2	"	800	"

There are intermediate levels between Levels No. 4 and 5 and No. 3 and 4. These levels are connected by manways and ore passes, permitting the ore to be dropped from the upper levels to the main haulage level.

EQUIPMENT: The mine is equipped with Imperial Type 10 Ingersoll Rand air compressor, electric motor driven, air receivers, 3" air lines, power sharpener for drills, power drifting drills, ore cars Blacksmith outfit, tunnels are tracked with 12 and 30 pound rails.

BUILDINGS AT MINE:
- 1 Blacksmith shop and compressor house
- 1 barn, capacity 3 horses
- 1 combination tramway terminal, ore house 19' X 56' and 300 ton ore bin.
- 3 - 25 kva Transformers from 11,000 to 440 and 110 volts

Dwelling HOUSES:
- Bunk house, capacity 50 men or more
- Boarding house
- 4 cabins for men with families
- 1 barn, capacity 4 horses

WATER WORKS:
- 1 - 73,000 gallon tank with approximately 4,000 feet of 8" and 5" pipe line for watersupply
- 1 emergency pumping equipment and auxiliary tank.

MILL BUILDINGS AND EQUIPMENT:
- Blacksmith shop equipped
- 75 foot storage house
- 125 foot shed housing concentrate tram and hoist, electrically driven
- Combination lower tramway terminal Crusher house, 250 ton ore bin and mill building roomy enough to house equipment capable of handling 500 tons daily

The mill is a modern oil flotation and ball mill concentrating plant well arranged for economical operation. Equipped with gyratory crusher, ball mills, mineral jig, classifier, Wilfley tables, agitator, oil flotation machines, filter, vacuum pumps and concentrate tram and hoist discharging buckets directly into cars.

The capacity of the mill as now equipped, is 175 tons in 24 hours. It is electrically driven throughout with individual motors.

TRAMWAYS: 1 aerial tramway connects mine and mill, it is a gravity two bucket jig back type, with motor control, capacity 20 tons per hour.

1 Timber and mine supply tramway.

In the mine there is now well over $1,000,000.00 worth of ore developed and in sight, estimated value on present prices of metals.

Only a comparatively small area of the properties has been worked, approximately 90 percent is still virgin ground. Its past production exceeds several million dollars.

The vein in the breast of tunnel NO. 5 is over three feet wide and runs in value as follows:

Gold 03 oz., Silver 55.6oz., Lead 10.7 per cent
Copper 2.52 per cent, per ton.
The foregoing sample by C. N. Bell, E. M.

STATEMENT OF OPERATING RESULTS ON LAST 55,271 TONS TREATED DURING THE YEARS 1926 and 1927:

Tonnage treated	55,271
Mine operation	$ 1.810
Repairs and renewals	.0355
Construction and equipment	.040
Development	.272
Tramway	.061
MILL Operation	.8865
Repairs and renewals	.245
Construction and equipment	.036
General Operation	.445
Legal	.005
Rent Boedecker	.0051
Taxes	.010
Boarding house loss	.108
Hospital loss	.0145
Administration	.118
Interest	.061
Total Costs	$ 4.149
Freight per ton crude .256	
" " moiture .026	
Treatment per ton crude .443	.725
	$ 4.874

Statement of metal content of concentrates computed from smelter settlement sheets of the last 72 cars (narrow guage) shipped from the mine at Matterhorn to the American Smelting and Refining Company's smelter at Durango, Colorado:

Cars	Average tons per car	Average per ton of Concentrates Oz. Gold	Oz. Silver	Lead %	Copper %
72	20.6	.063	228.589	38.076	4.84

The mine equipment, mine buildings and equipment, and aerial tramways:

The dwelling houses, boarding house, bunk house and equipment and water works;

The mill building with their concentrating equipment and RR R. spur siding, to replace new would cost well over $300,000.00.

The property has the best situation of any in the district for economical mining and milling, as it has all the natural advantages such as: Railroad, State Highway, water rights with plenty of water for all purposes, timber, and ease of entrance and exit , and a mine with considerable ore already developed, a modern mill to handle it and an aerial tramway connecting the mine with the mill, also bunk house boarding house and other dwellings, with electric power throughout.

From past operations on these properties we can state with reasonable certainty that by persistently pushing the development work, the milling operations can be stepped up to present milling capacity of 175 tons daily within six months time. In the past no attempt was made to save the zinc but now that it is a strategic metal with a high market price, it will add considerably to our returns. Also in past operations only agout 80 per cent of the metals in the ore were recovered, while at the present time with the latest improvements in metallurgy and milling operations the extraction should be 90 to 94 per cent and with good management this tonnage should produce a minimum of 15 tons of concentrates daily with metal contents as follows:

Gold	.70 oz.	to	.75 Oz	per ton	concentrates
Silver	250.00 oz.	to	275.00 oz.	per ton	concentrates
Lead	40 %	to	42 %	per ton	concentrates
Zinc	20 %	to	25%	per ton	concentrates
Copper	5 %	to	6 %	per ton	concentrates

Paragon Mines, Inc,

Otto Baselach Manager

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

APR 12 1951

In reply please refer to DMA-542

Mr. Otto Reselack, Manager
Paragon Mines, Inc.
Ophir, Colorado

Dear Mr. Reselack:

One of the purposes of the Defense Production Act of 1950 is the encouragement of exploration, development and mining of strategic minerals and metals. Where an applicant has proven reserves of strategic materials, Federal aid in mining can be given through procurement contracts for such materials as are in short supply. On the strength of these contracts, the applicant can obtain private financing in most instances.

The program recently approved for encouragement of exploration of strategic materials calls for participation on the part of the applicant. For zinc, lead and copper deposits it will be necessary to match Government funds on an equal basis. Funds advanced by the Government will be considered a loan, to be repaid if the exploration is profitable, but to be canceled if unsuccessful. The details of the plan, explaining the projects that will be eligible for assistance, the terms and schedules of financing, repayment, and other pertinent information, are enclosed.

A review of your application (DMA-542) for financial aid in bringing your San Bernardo mine in San Miguel County, Colorado to a production basis indicates that your proposal may be considered under this exploration program. Details concerning expenditures that will be considered chargeable to exploration aid will be subject to a final determination by negotiation, but as a preliminary appraisal we believe that the program will apply to the $50,000, the total amount of your application, which you propose to use to open up the mine.

Before we can proceed further with consideration of your application, which may or may not require a field examination, please indicate your willingness to provide your share of the funds needed to carry out the proposed exploration. Any modification of your original proposal that you may wish to make will be considered, but you should be specific concerning the work you wish to undertake.

Very truly yours,
Otto Herres

ABGriggs:emp G 3/21/51
Copies to: 2 copies to
J. H. East, Executive Officer, Region IV
Chief, Lead-Zinc Br.
McKnight - 4204 GSA
Enclosures

[illegible], Chief
Lead-Zinc Branch

L. B. Moon
R. H. Mote
L. F. Strobel
C. O. Mittendorf
Files

January 24, 1951

Mr. Otto Bosslank
Manager, Paragon Mines, Inc.
Ophir, Colorado

Dear Mr. Bosslank:

This will acknowledge receipt of your letters of January 15 making application for a Government mining loan in connection with the San Bernardo mine and mill.

Your application is being forwarded to the Defense Minerals Administration in Washington, D.C. for consideration.

Sincerely yours,

J. H. East, Jr.
Regional Director

/cl

cc - PT Allsman
WMTraver
DMA files
Chron.

DMA Team

Reg. 1

Your attention, acknowledge and forward if you see fit. P.T.G.

Callaman
Pls handle
JHE

PARAGON MINES, INC.
OPHIR, COLORADO

Mining Division
Date Rec'd.

JAN 22 1951

BUREAU OF MINES
Denver, Colorado

January 15th, 1951

Mr. Paul T. Allsman,
Chief, Mining Division,
Bureau of Mines,
224 New Customhouse,
Denver 2, Colorado.

Dear Mr. Allsman:-

Enclosed you will find three copies of a letter to Mr. J. H. East, Jr., also three copies of data on the San Bernardo mine and mill. On December 23rd I called at your office, but you were ill so I had a talk with Mr. King about our application for a loan. He made some suggestions and the enclosures are the results of the discussion.

I am sending these to you with an appeal to place them into channels for speedy consideration and for your personal boost toward that end. We have been struggling to get past the cave and into the ore, but unless we get financial help we may be forced to shut down.

Thanking you for your kind efforts in this matter,

I remain,

PTA

Sincerely yours,

Otto Resslack

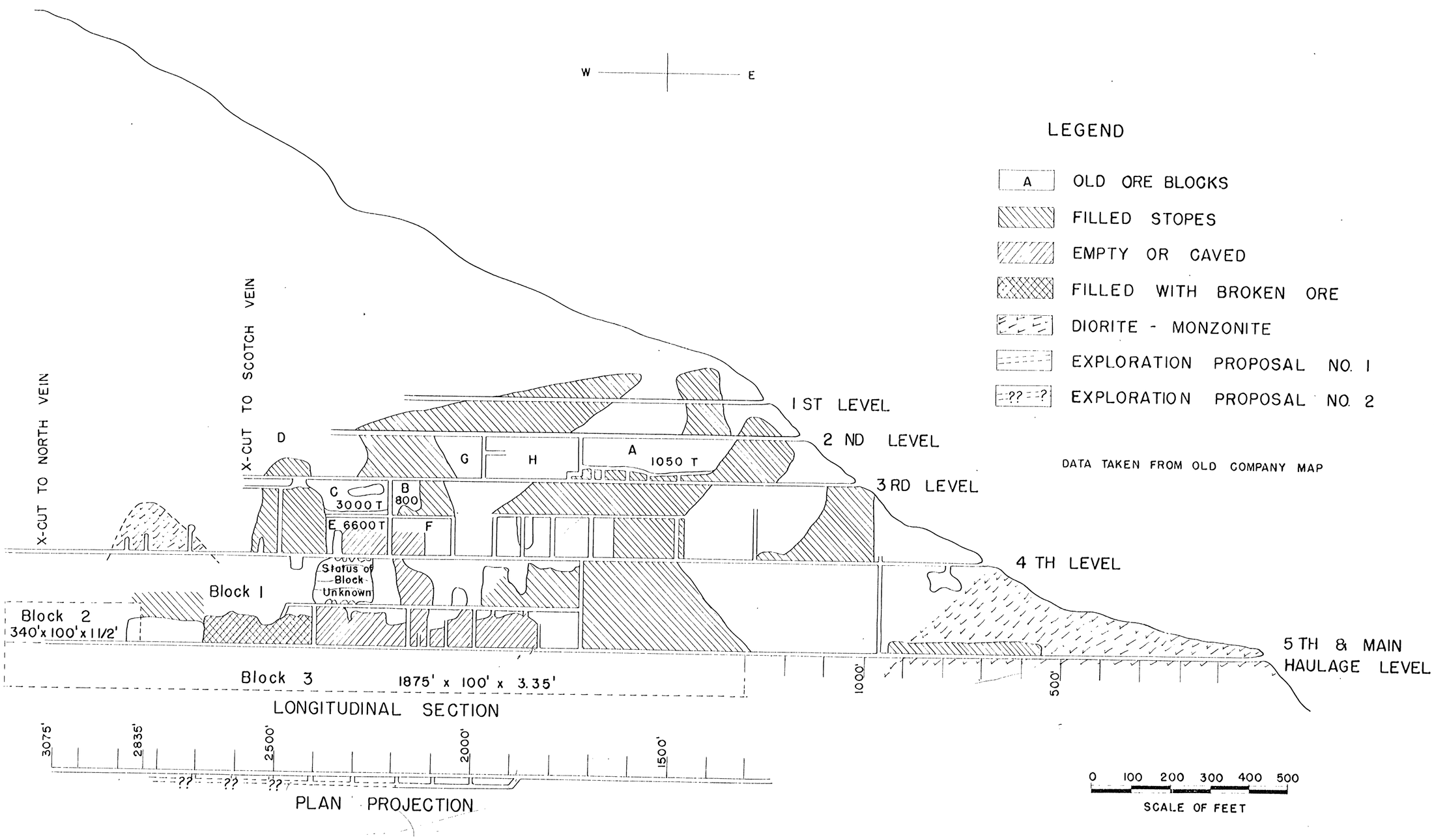
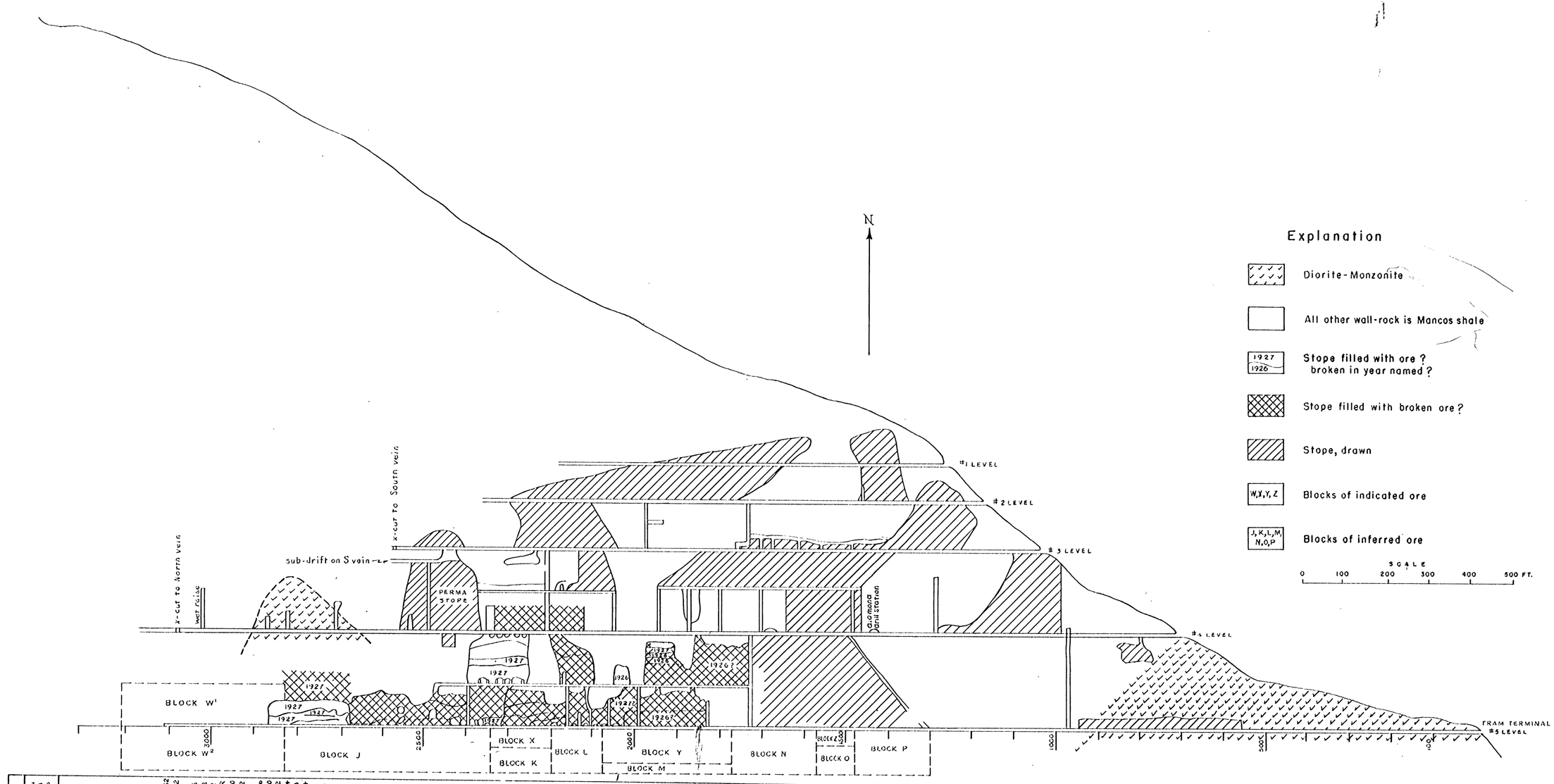


FIG. 2 PROPOSED EXPLORATION FOR PARAGON MINES, INC., SAN BERNARDO MINE DMA - 542



SAMPLES FROM #5 LEVEL

	Cu in %	Pb in %	Ag in oz.	Au in oz	width in inches
Copper content not reported	2.52	10.7	55.6	.03	38
	.12	8.7	5.3	.03	36
	.1	3.7	4.6	.03	13
	.2	20.0	10.3	.02	19
	.2	2.8	3.8	.02	16
	TR	.8	6.3	.01	12
	.00	.2	1.4	.00	42
	.12	.7	0.5	.00	8
	.2	4.7	1.1	.02	9
	.36	0.5	6.6	.10	11
	.00	0.0	15.1	.00	17
	1.52	5.0	0.7	.23	21
	.04	.2	40.1	.00	12
	.18	5.5	0.9	.02	12
	.24	3.6	3.5	.02	15
	TR	0.1	6.0	TR	20
	1.8	8.8	0.4	.04	
Copper content not reported		2.8	174.3	.30	11
		3.1	34.6	.11	13
		2.0	17.6	.04	8
		2.9	14.6	.41	24
		3.9	10.3	.12	21
		2.2	32.0	.05	23
		3.8	34.6	.04	24
		1.6	34.0	.03	34
		1.60	0.69	.01	72
		0.75	25.0	.01	84
		1.0	58.1	.03	84
		2.25	75.8	.05	96
		8.5	6.7	.01	72
		2.0	7.07	.01	72
		0.15	1.21	.01	84
		.2	2.95	.01	72
		0.75	2.79	.01	14
		.05	.36	.01	6
		.03	9.16	.02	108
		.10	3.92	.02	72
		.15	.29	.01	84
		3.6	5.33	.01	72
		3.5	3.74	.14	84
		2.5	0.91	.01	6
			6.0	.04	4.5
			202.8	.07	4.5
Copper content not reported	.3	10.2	7.6	.02	16
	.12	2.4	2.8	.02	9
	.24	2.6	3.5	.02	8
	.36	5.8	14.2	.02	10
		2.2	12.4	.03	18
		1.0	5.28	.17	20
		1.3	42.3	.11	26
		0.8	55.3	0.13	42
		0.25	0.42	0.00	48
		1.35	3.55	.01	72
		2.35	31.55	.01	84
		2.75	102.15	.05	72
		25.1	28.38	.06	96
		4.55	2.73	.01	72
		3.45	32.4	.04	6.5
		.1	9.02	.02	1.5
			256.9	.09	4
			18.0	.04	2

by C.N. Bell ? — from Mine Records — by C.A.Chase

Department of Interior
U.S. GEOLOGICAL SURVEY

PARAGON MINES, INC.

Stope map of SAN BERNARDO MINE
Ophir, San Miguel County, Colorado

Assays and ore blocks plotted on an adaptation of an Otto Mining Company map. This map was difficult to interpret, and the stope legend cannot be considered dependable. All available assays are shown below the points on the #5 Level where they were taken by the agent named below them.

Geologist - W.B. Meek June 1951

DMA Docket 542

Figure 2