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

224 New Customhouse
Denver 2, Colorado

June 3, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration
Attention: Code 210

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2476, (Lead-Zinc) Interior Metals Corporation, Boodle Mine, Gilpin County, Colorado

Enclosed are four copies of the final report on the Boodle Mine, a copy of the letter of denial to the applicant and two copies of Form 3b.

Removed in R&R

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 9 1952

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

224 New Customhouse
Denver 2, Colorado

June 3, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 9 1952

Mr. W. H. Pitts, President
Interior Metals Corporation
824 Equitable Bldg.
Denver, Colorado

Dear Mr. Pitts:

Reference is made to your application for Government aid in exploration work on the Boodle mine.

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

A careful study of your property and data available to this agency, reveals that the probability of disclosing mineable reserves by your proposed exploration program is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for Government aid is denied.

Very truly yours,

W. H. King

W. H. King
Field Team, Region IV

A. H. Koschmann

A. H. Koschmann
Field Team, Region IV

cc: Acting Administrator, DMEA

Mining Division
Region IV

June 3, 1952

Memorandum

To: Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2476, (Lead-Zinc) Interior Metals Corp., Boodle Mine, Gilpin County, Colorado

Enclosed are nine copies of the engineering report on the Boodle mine by C. M. Harrer of the Bureau of Mines.

At present, all mine workings are filled with water. The R. F. C. in 1942 made a loan of $5,000 to make the mine accessible for examination and six separate reports have been made by R. F. C. and Bureau of Mines engineers whose reports are available.

The greatest productivity of the mine was realized above the 100 foot level and decreased rapidly below this level. The applicants request for $29,600 is insufficient to accomplish his intent.

The field examiners believe further exploration on this property is not warranted and they recommend the application be denied.

We concur in this recommendation.

W. H. King
W. H. King

Reviewed by
DMEA OPERATING COMMITTEE
6-13-52
(date)

Region IV

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
May 21, 1952

Mining Division
Date Rec'd
1952
BUREAU OF MINES
Denver, Colorado

Memorandum

To: Acting Chief, Mining Division, Region IV

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

Subject: DMEA 2476, Interior Metals Corporation (Boodle mine), Gilpin County, Colorado

Please find enclosed the required number of copies of the "Summary, Conclusions, and Recommendations" on the above docket, by C. M. Harrer and E. N. Harshman, and of C. M. Harrer's engineering report.

The denial, of necessity, is based entirely upon data obtained from the files of the Reconstruction Finance Corporation and one unpublished report in the Colorado Branch, Bureau of Mines, files due to the fact that the mine workings are flooded to within 25 feet of the shaft collar. All available information indicates that the loan request should be denied, as was the case previously by the Reconstruction Finance Corporation after a preliminary loan of $5,000.00 to unwater the mine for examination was expended. In addition, the applicant's estimates of cost and time required are out of line.

In this instance, the only requirement was writing a report from available data which could very well have been done by the U. S. Geological Survey examining participant. However, the suggestion was made that such procedure be followed after the engineering report was written, edited, and ready for the typist. As the work is virtually completed and in order not to disappoint the author, the engineering report is, therefore, included.

I concur with Harrer's recommendation that the loan application for $29,600.00 be denied.

The brochure supplied by the Region IV Field Team with their instructions to make a field examination is returned herewith.

Scott A. Hazen Jr
for W. M. Traver, Jr.

enclosures

WMT/amh

cc 8
DMEA 2476
Chron.

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

200 New Customhouse
Denver 2, Colorado

May 19, 1952

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2476, Interior Metals Corporation, Boodle Mine, Gilpin County, Colorado

Attached are 8 copies of the geological report by E. N. Harshman covering DMEA Docket 2476 - Interior Metals Corporation, Boodle Mine, Gilpin County, Colorado.

The Boodle mine, a zinc-lead property, is located in the Front Range mineral belt, about 1 mile west of Central City, Colorado. The mine is flooded and the workings are inaccessible. All underground data were obtained from file reports of E. F. C. and the Bureau of Mines. These reports indicate that the highest grade ore, the most continuous ore shoots and the greatest ore widths were found between the 100-foot level and the surface. Downward, only short, discontinuous, narrow stringers of sphalerite and galena are found. Harshman points out that there is no geological evidence to indicate or suggest that the ore might be of higher grade or that the veins will occur in wider or more continuous bodies at greater depth, and he therefore recommends that the requested loan be denied.

I concur with his 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 EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 2476, Interior Metals Corporation

Boodle Mine

Gilpin County, Colorado

Lead, Zinc, Copper, Gold, and Silver

C. M. Harrer, Mining Engineer
Bureau of Mines

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

May 21, 1952

DMEA 2476

INTERIOR METALS CORPORATION
BOODLE MINE
GILPIN COUNTY, COLORADO

Summary, Conclusions, and Recommendations

By C. M. Harrer
Mining Engineer
Bureau of Mines

and

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

DMEA 2476

INTERIOR METALS CORPORATION
BOODLE MINE
GILPIN COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By C. M. Harrer and E. N. Harshman

The Interior Metals Corporation has applied for a loan of $29,600.00 under the Defense Production Act of 1950 to explore the Boodle mine, situated about 1 mile west of Central City, Eureka Mining District, in sec. 11, T. 3 S., R. 73 W., Gilpin County, Colo. The applicant proposes to unwater the mine and rehabilitate the two-compartment inclined shaft preliminary to active exploration. The downward extension of the Boodle vein will then be explored by sinking three 100-foot levels below the present bottom (300-foot level). Each 100-foot horizon will be explored with 400 to 600 feet of drifting.

Exploration of each 100-foot level below the present bottom will be dependent on whether the exploration on the level above has been encouraging and justifies it.

At present all mine workings are filled with water. Observations and conclusions are based on incomplete production records and earlier reports by engineers of the Bureau of Mines and the Reconstruction Finance Corporation.

Production is estimated at 4,000 tons of ore averaging 0.06 ounce gold and 1.7 ounces silver per ton, 0.08 percent copper, 3.4 percent lead, and 2.2 percent zinc. Records of carbonate ore high in silver are non-existent.

The greatest productivity of the Boodle mine was realized above the 100-foot level. In depth, both the extent of mineable ore concentrations and valuable metal content appear to decrease. The ore in the lower levels is reported to occur in very narrow, erratic, and discontinuous streaks of sphalerite and smaller amounts of galena, in a zone of shattered schist and gouge 21 feet in width. Copper, gold, and silver are present in minor amounts.

The country rock consists of pre-Cambrian granite gneiss and schist. Locally, sphalerite also cements breccia but is very low grade.

The applicant's request for $29,600.00 is insufficient to accomplish his intent. It is estimated that between $112,000.00 and $146,000.00 would be required to complete the project in one or two years, depending on whether operations are carried out on a two-shift or single-shift basis.

The property will probably never sustain continuous or profitable mining operations, or add appreciably to present mineral production. There is no basis for an assumption that strategic mineral values will improve with depth.

The exploration proposal is not believed to be an attractive exploration venture and it is recommended that the Interior Metals Corporation application for an exploration loan of $29,600.00 be denied.

amh

INTERIOR METALS CORPORATION

BOODLE MINE

GILPIN COUNTY, COLORADO

DMEA DOCKET 2476

Geologic Report

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

INTERIOR METALS CORPORATION
BOODLE MINE, GILPIN COUNTY, COLORADO

INTRODUCTION

The Interior Metals Corporation, in DMEA Docket 2476, has asked for assistance in exploring the Boodle mine, a zinc-lead property located about 1 mile west of Central City, Colorado. The property is now developed to a depth of 300 feet by an inclined shaft and about 1600 feet of drifting on 3 levels, shown in Fig. 2. The applicant proposes to explore the Boodle vein at greater depths by sinking the present shaft in 100 foot stages to a total inclined depth of 600 feet. The first stage would include sinking the shaft to 400 feet, 100 feet below the present lower level, and drifting on the vein 200 to 300 feet both east and west of the shaft. If ore bodies of sufficient size and grade are found on the 400 foot level to justify deeper exploration, a second stage of development, similar to the first, would be undertaken on the 500 foot level. Similarly, if development on the 500 foot level is encouraging, a third stage would include sinking the shaft to a depth of 600 feet and drifting east and west.

The applicant estimates the total cost of the 3 stages of exploration to be $29,600 and is prepared to invest $15,000 as his share of the project.

The property was examined on April 30, 1952, in the company of C. M. Harrer of the U. S. Bureau of Mines. At the time of the examination the mine was flooded and none of the workings were accessible. The discussions

which follows ~~are~~ based on a surface examination of the property and on reports on the underground workings by the following engineers:

Engineer	Organization	Date of report
G. O. Argall, Jr.	R. F. C.	4/17/43
C. R. Wilfley	U. S. B. M.	8/16/43
E. V. Reinhardt	R. F. C.	2/25/44
P. P. Barbour	R. F. C.	5/4/44
C. T. Linderholm	R. F. C.	6/29/44
C. I. Dismant	R. F. C.	4/26/46

The report by C. R. Wilfley is on file at the U. S. Bureau of Mines, Denver, Colorado; all other reports are on file at the Reconstruction Finance Corporation, Denver, Colorado.

GEOLOGY

The Boodle mine is located in the east-central part of the Front Range mineral belt of Colorado and on the extreme western edge of Central City-Idaho Springs mining district. According to Lovering and Goddard (1950) a northwesterly-trending anticline, the axis of which passes through Central City, has exposed a core of pre-Cambrian granite gneiss about 2 miles wide, bounded on the east and west by schists of the pre-Cambrian Idaho Springs formation. Most of the ore deposits in the district occur along zones of minor faulting, trending east to N. 45° E. with dips of 60° or more. A zonal arrangement of the ores is evident with pyrite-gold mineralization in the central portion of the district and galena-sphalerite-silver mineralization surrounding it. Uranium bearing ore has been found in the district and appears to be localized in the transition between the inner and outer zones.

The Boodle shaft is located a few hundred feet west of the surface outcrop of the contact between the granite gneiss and the schist, on the west flank of the above mentioned anticline. Although all available reports contain little or no description of the geology of the Boodle mine, it appears that the workings west of the shaft are in the Idaho Springs schist, and that the eastern workings may have reached the granite gneiss.

The Boodle vein strikes N. 70° E. and dips from 62° to 70° N. From data in available reports, it appears that mineralization has taken place along a faulted or sheared zone which ranges from a few feet to a maximum of 9 feet wide, and averages about 4 feet wide. The greatest vein widths are found in the workings east of the shaft. To the west of the shaft the fault zone contains considerable gouge in contrast to brecciated rock reported in the workings to the east. Sphalerite and galena, with minor amounts of copper, gold, and silver, were deposited in lenticular stringers of short horizontal and vertical dimensions and narrow width. In addition to these stringers, low grade sphalerite mineralization is reported as cementing material in a breccia in the east part of the 100 and 300 foot levels.

The maximum reported length of any one stringer is "a 50 foot kidney of sulphides" located on the western end of the 300 foot level. Five samples cut in this material gave a composite assay of 6.40 % Zn and 1.55 % Pb over a width of 1.3 feet. The maximum reported width of sulphide mineralization is 6 inches. Several references are made to narrow (1 to 6 in.) stringers of sulphides which were exposed in one side of a raise or winze but did not extend to the other side.

The available reports indicate that the highest grade ore, the most continuous ore shoots, and the greatest ore widths were found between the 100 foot level and the surface. These ores were high in silver and may have come from a zone of secondary enrichment in the upper portion of the vein. The primary sulphides on the 300 foot level appear to occur in less continuous, and narrower lenses or stringers than those exposed on the 200 foot level.

All ore lying between the 300 foot level and the surface is reported as mined.

ORE RESERVES

Since the mine was not accessible at the time of the examination, ore reserves cannot be estimated.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded from the data in the reports listed in the introduction and a surface examination of the claims that mineralization in the Boodle mine consists of short, discontinuous, narrow stringers of sphalerite and galena in a faulted or sheared zone averaging 4 feet wide. Very low grade sphalerite mineralization occurs as a cementing material in brecciated wall rock. From the geological viewpoint there is no reason to believe that mineralization will become higher grade or occur in wider and more continuous bodies at greater depths. It is, therefore, recommended that the Interior Metals Corporation application for a loan, DMEA Docket 2476, be denied.

BIBLIOGRAPHY

Bastin, E. S., and Hill, J. M., Economic geology of Gilpin County and adjacent parts of Clear Creek and Boulder Counties, Colorado: U. S. Geological Survey Professional Paper 94, 1917.

Lovering, T. S., and Goddard, E. N., Geology and ore deposits of the Front Range, Colorado: U. S. Geological Survey Professional Paper 223, 1950.

DMEA 2476

INTERIOR METALS CORPORATION
BOODLE MINE
GILPIN COUNTY, COLORADO

Engineering Report

By C. M. Harrer
Mining Engineer
Bureau of Mines

DMEA 2476

INTERIOR METALS CORPORATION
BOODLE MINE
GILPIN COUNTY, COLORADO

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2. Composite plan of Boodle mine, DMEA docket 2476, Interior Metals Corporation, Gilpin County, Colorado	*

*See figure following geologic report.

DMEA 2476

INTERIOR METALS CORPORATION
BOODLE MINE
GILPIN COUNTY, COLORADO

ENGINEERING REPORT

By

C. M. Harrer

INTRODUCTION

The Interior Metals Corporation has applied for a loan of $29,600.00 under the Defense Production Act of 1950 to explore the Boodle vein in depth for lead-zinc-copper sulfide ore with included gold and silver, Defense Minerals Exploration Administration docket 2476.

The applicant proposes to unwater the present mine workings to the bottom level, 300 feet below the surface, and rehabilitate the shaft as required, in preparation for active exploration below. Exploration in depth will consist of sinking the shaft on the vein, level by level, for 300 feet and exploring each 100-foot level with 400 to 600 feet of drifting, as geologic conditions indicate. Continuation of exploration of each 100-foot level below the bottom or third level will be dependent on whether exploration on the level above has been encouraging. U. S. Government participation would be on a 50 percent participation basis.

ACKNOWLEDGMENTS

Carl I. Dismant, Engineer Examiner of the Reconstruction Finance Corporation, made extensive files available to the examining team. An unpublished War Minerals memorandum, by C. R. Wilfley, of the Bureau of Mines, proved helpful. Production statistics were made available by the

Economics Division, Statistics Branch, Bureau of Mines, Region IV. E. N. Harshman, geologist, U. S. Geological Survey, accompanied the writer in the field.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Boodle mine is about 1 mile west of Central City (fig. 1) in sec. 11, T. 3 S., R. 73 W., Eureka Mining District, Gilpin County, Colo., at an altitude of 9,100 feet. It is reached by following Colorado State Highway 279 and Eureka Street 1-1/2 miles northwest through Central City to the crest of the hill near City Cemetery. It is readily accessible by improved road and climate is favorable for year-around operations.

HISTORY AND PRODUCTION

The Boodle mine was discovered in the 1880's and has since been operated intermittently on a small scale. Early production was reported as rich, silver-bearing, lead carbonate ore from near the surface, which graded downwards to galena and sphalerite. Gross production was estimated at $180,000.00 by a former operator. Production statistics from records of the Economics Division, Statistics Branch, U. S. Bureau of Mines, Region IV, follows:

Production Statistics, Boodle Mine

Year	Ore Tons	Concentrates Tons	Ounces		Pounds		
			Gold	Silver	Copper	Lead	Zinc
1915	110±	11	6.29	138.00	-	6,264	2,839
1915	1	-	.28	8.00	-	376	-
1916	24	-	12.30	686.84	-	24,555	-
1916	340±	34	26.99	685.00	-	26,100	-
1917	216	-	12.37	7.32	-	34,320	-
1917	1,060	106	43.60	1,451.00	77	44,611	14,518
1941	22	-	4.26	-	-	-	-
1943	96	-	9.40	3.03	-	11,394	12,698
1944	165	-	22.78	529.00	587	12,425	30,793
1945	366	-	35.00	1,400.00	1,000	35,000	28,000
1946	700	70	19.00	883.00	611	24,752	23,257
1947	450	45	19.00	906.00	473	19,385	15,699
1949	60	110	5.00	160.00	116	7,134	-
10	3,610	276	216.27	6,177.19	2,864	246,316	127,804

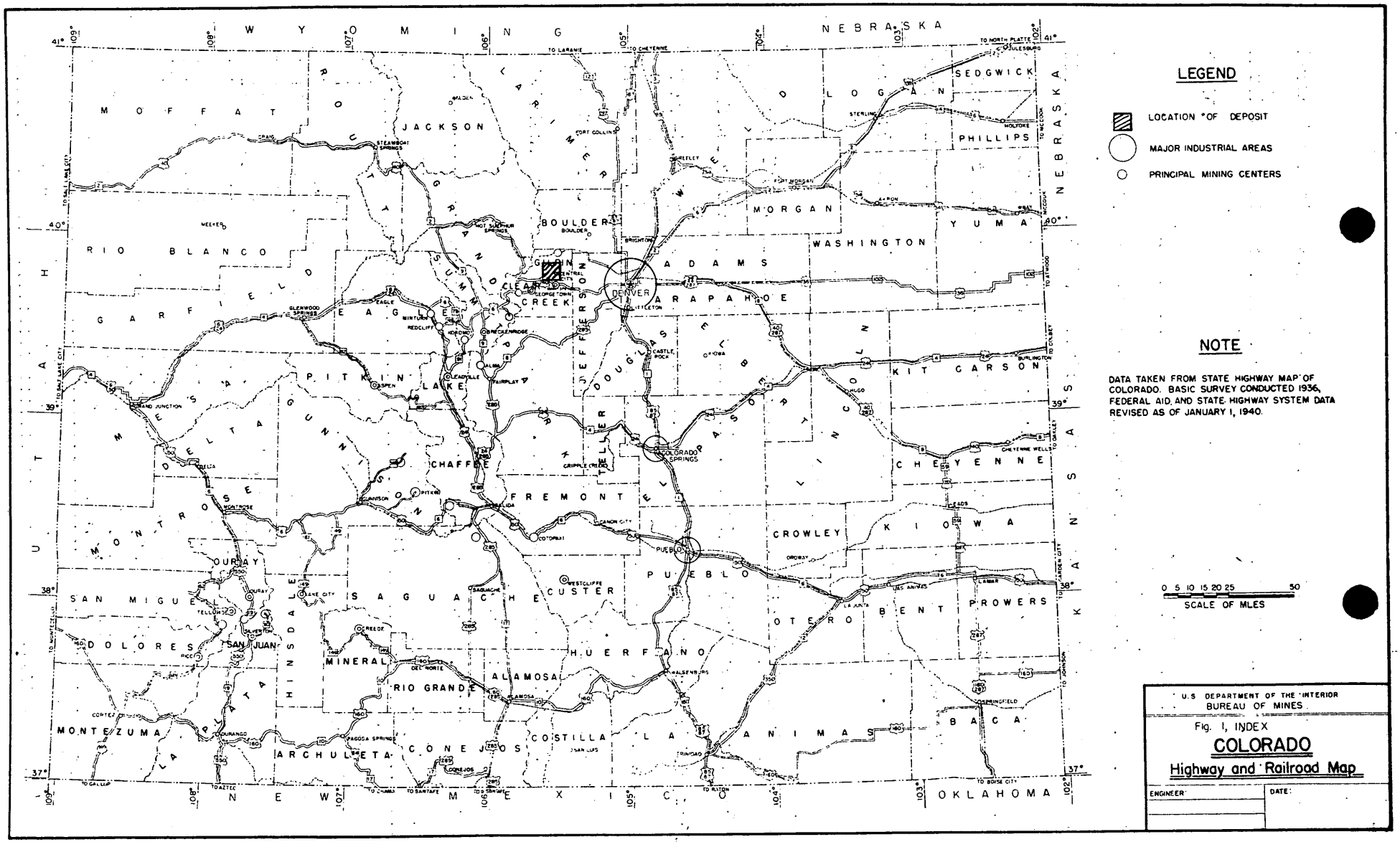

FIG. 1- LOCATION MAP, BOODLE MINE, INTERIOR METALS CORP., GILPIN CO., COLO., DMEA-2476

Total production is estimated at 4,000 tons of crude ore averaging 0.06 ounce gold and 1.7 ounces silver per ton, 0.08 percent copper, 3.4 percent lead, and 2.2 percent zinc.

During August 1942, the Reconstruction Finance Corporation granted a prior owner, Northwestern Loan and Investment Company, a loan of $5,000.00 to make the underground workings accessible to examination, under their docket C-ND-7537. Subsequent examination of underground workings was not encouraging.

The property was previously examined by the following engineers whose reports are available:

Engineer	Agency	Date of Report
G. O. Argall, Jr.	Reconstruction Finance Corporation	April 17, 1943
C. R. Wilfley	Bureau of Mines	August 16, 1943
E. V. Reinhardt	Reconstruction Finance Corporation	February 25, 1944
P. P. Barbour	Reconstruction Finance Corporation	May 4, 1944
C. T. Linderholm	Reconstruction Finance Corporation	June 29, 1944
C. I. Dismant	Reconstruction Finance Corporation	April 26, 1946

OWNERSHIP AND EXTENT

The property comprises one patented lode claim, Boodle No. 1, survey number 6111, 150 feet by 1,500 feet, containing 5.83 acres, and one standard unpatented location adjoining to the south. The property is owned by the Interior Metals Corporation, whose officers with their addresses are as follows:

Title	Name	Address
President	W. H. Pitts	Box 453, Jonesboro, Arkansas
Secretary-treasurer	R. Downing	824 Equitable Building, Denver, Colorado
Vice President	M. L. Chamberlin	824 Equitable Building, Denver, Colorado

DESCRIPTION OF THE DEPOSITS

The Boodle vein (fig. 2 with the geologic report) strikes N. 70° E. and dips 62° NW. between the 100- and 200-foot levels and steepens to 70° NW. between the 200- and 300-foot levels. It cuts pre-Cambrian granite gneiss and schist. The structure is reported[1/] as a gouge-filled fissure with an average width of 4 feet. Within the schist and clayey gouge, occasional short, interrupted, and very narrow 1- to 6-inch streaks of galena and sphalerite occur.

Stoped areas are reported[2/] smaller, poorer, and less consistent on the 200-foot level than on the 100, and even less extensive on the 300 than on the 200-foot level and above. Stopes are also reported narrower on the bottom level than on the upper levels. On the 100- and 300-foot levels the vein is reported[3/] to widen east of the shaft and exhibits breccia development with low grade sphalerite cementing.

The vein splits west of the shaft. On the 200-foot level, a small lens 2 feet thick carried very narrow streaks of heavy, dark sphalerite. The lens pinched out entirely within a very short distance. The south branch was barren. Workings west of the shaft show 1- to 2-inch streaks of sphalerite trending N. 40° E. into the hanging wall.

On the third or bottom level, the back of a stope east of the shaft is reported by Linderholm as poorly mineralized, with occasional narrow and short seams of galena-sphalerite. A crosscut into the hanging wall exposes two narrow stringers of galena-sphalerite.

1/ C. R. Wilfley, Unpublished War Minerals memorandum, Boodle mine, Bureau of Mines, August 1943.
2/ E. V. Reinhardt, Reconstruction Finance Corporation, Docket C-ND-7537, report, February 25, 1944.
3/ C. T. Linderholm, Reconstruction Finance Corporation, Docket C-ND-7537, report, June 29, 1944.

This property will probably never sustain continuous or profitable mining operation or add appreciably to present strategic mineral production. Galena and sphalerite with accompanying copper, gold, and silver occur in very narrow, erratic, and discontinuous streaks in a much wider and barren zone of schist and gouge. The reported occurrence of low-grade sphalerite as a breccia cement is not particularly encouraging.

SAMPLING

Third or bottom level: (Fig. 2 with the geologic report.)

A raise 236 feet east of the shaft and up 30 feet was reported as mainly barren. Two small streaks of galena-sphalerite, 2 and 5 inches thick and separated by 4-1/2 feet of barren schist and gouge, according to Linderholm, assayed 0.01 ounce gold and 2.9 ounces silver per ton, 0.2 percent copper, 6.4 percent lead, and 8.9 percent zinc.

Following are the results of character sampling of the bottom level by Reinhardt.

Five samples taken west of the shaft, over a length of 50 feet and an average width of 1.3 feet, averaged 0.16 ounce gold and 1.64 ounces silver per ton, 0.22 percent copper, 1.55 percent lead, and 6.40 percent zinc.

Three samples taken east of the shaft over an average width of 1.6 feet averaged 0.025 ounce gold and 1.12 ounces silver per ton, 0.096 percent copper, 3.96 percent lead, and 4.78 percent zinc.

A sample from the sump below the third level and over a width of 3.4 feet assayed a trace of gold and 0.24 ounces silver per ton, 0.11 percent copper, 0.20 percent lead, and 1.60 percent zinc.

ORE RESERVES

There are no known ore reserves. The mine workings are under water and available reports indicate the mine is worked out above the 300-foot level.

PRESENT STATUS

Exploration and Development

The mine (fig. 2 with the geologic report) is developed by a two-compartment, inclined shaft sunk 315 feet on the Boodle vein, with four levels driven east and west at slope depths of 65, 100, 200, and 300 feet. The mine is now filled with water to within 25 feet of the shaft collar. Stoping was concentrated above the 100-foot level in a zone extending 100 feet east and 300 feet west of the shaft. A few small stopes were reported driven on the 200- and 300-foot levels on small, local concentrations of ore.

The 100-foot level is reported driven 160 feet east and 400 feet west of the shaft.

The 200-foot level extends about 160 feet east and 400 feet west of the shaft and is partly caved.

The 300-foot level extends about 160 feet east and 300 feet west of the shaft.

A sump extends about 15 feet below the 300-foot level.

Mining and Milling Equipment

The mine is well equipped, with a substantial headframe and buildings in good repair. Hoisting equipment, buckets, and a second motion, geared, electric hoist and all necessary electrical accessories are in place and serviceable with a minimum of rehabilitation. The compressor room and shops adjoining contain an electric-driven, Imperial type 10, two-stage,

Ingersoll-Rand compressor which appears serviceable and adequate for exploration needs.

Buckets dump directly into the mill-head bin, with arrangements for handling waste rock to the dump.

A small mill, reputed to have a capacity of 40 tons, is inadequate to produce anything but a crude, bulk lead-zinc-copper-gold-silver concentrate. It is equipped with a bar grizzly, small jaw crusher, a Chilean mill, reagent feeders, a 4-cell Morse Brothers flotation machine, and two Wilfley tables. All equipment is electric powered.

PROJECT PROPOSALS, WITH COSTS

Exploration and Development

The Interior Metals Corporation proposes to unwater the Boodle mine and rehabilitate the shaft as a preliminary to active exploration. It proposes to explore the downward extension of the Boodle vein by sinking three succeeding 100-foot lifts, with 400 to 600 feet of drifting on each level. Exploration of each succeeding 100-foot level below the present bottom or 300-foot level will be dependent on whether exploration on the level above has been encouraging. The applicant expects to complete each level of exploration in 120 days, and the entire project in about 365 days.

Estimates by the examining engineer indicate that the full project would cost between $112,000.00 and $146,000.00 and would require between one and two years to complete, depending upon whether two shifts or one shift per day are worked.

New Equipment

The project would require pumping and mining equipment.

Transportation

Ready access is had over improved roads to Central City and neighboring Denver.

Manpower

Labor is obtainable locally. Miners are paid $1.75 per hour; hoistmen and underground labor, $1.50 per hour.

Power

Power facilities of the Public Service Company of Colorado are available on the property.

Water

Ample water for all requirements is available from mine drainage, nearby Eureka Creek, and the Central City water system.

PROPOSED FINANCING

The applicant states that he can contribute $15,000.00 towards his share of the proposed $29,600.00 exploration loan. In addition, he offers the use of an electric-powered compressor and mine hoist at $250.00 and $100.00 per month, respectively.

CONCLUSIONS

The greatest productivity of the Boodle mine was realized above the 100-foot level. In depth, both the extent of mineable ore concentrations and the valuable metal content appear to have decreased. The ore in the lower horizons is reported to occur in very narrow, erratic, and discontinuous streaks, as galena and sphalerite with accompanying copper, gold, and silver in a much wider barren zone of schist and gouge. The vein, predominantly barren, is reported to average 4 feet in width, thickening up to 9 feet to the east of the shaft. Sphalerite, cementing breccia, is very low grade.

Past production is estimated as 4,000 tons of ore averaging 0.06 ounce gold and 1.7 ounces silver per ton, 0.08 percent copper, 3.4 percent lead, and 2.2 percent zinc. Records of production of carbonate ores high in silver are non-existent.

The property will probably never sustain a continuous or profitable mining operation or add appreciably to present strategic mineral production. There is no basis on which to assume that strategic mineral values will improve with depth. The exploration proposal is not believed to be an attractive venture.

The estimate of $29,600.00 by the Interior Metals Corporation to complete the proposed exploration program is inadequate. A preliminary estimate by the Bureau of Mines engineer indicates that the project would require between $112,000.00 and $146,000.00 and between 1 and 2 years to complete, depending on whether two-shift or single-shift operations were carried on.

RECOMMENDATIONS

It is recommended that the application of Interior Metals Corporation for an exploration loan of $29,600.00 be denied.

amh

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

224 New Customhouse
Denver 2, Colorado

June 3, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration
Attention: Code 210

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2476, (Lead-Zinc) Interior Metals Corporation, Boodle Mine, Gilpin County, Colorado

Enclosed are four copies of the final report on the Boodle Mine, a copy of the letter of denial to the applicant and two copies of Form 3b.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
JUN 9 1952

COPY

224 New Customhouse
Denver 2, Colorado

June 3, 1952

Mr. W. H. Pitts, President
Interior Metals Corporation
824 Equitable Bldg.
Denver 2, Colorado

Dear Mr. Pitts:

Reference is made to your application for Government aid in exploration work on the Boodle mine.

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

A careful study of your property and data available to this agency, reveals that the probability of disclosing mineable reserves by your proposed exploration program is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for Government aid is denied.

Very truly yours,

/s/ W. H. King
Field Team, Region IV

/s/ A. H. Koschmann
Field Team, Region IV

cc: Acting Administrator, DMEA

Mining Division
Region IV

June 3, 1952

Memorandum

To: Field Team, Region IV

From: Acting Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2476, (Lead-Zinc) Interior Metals Corp., Boodle Mine, Gilpin County, Colorado

Enclosed are nine copies of the engineering report on the Boodle mine by C. M. Harrer of the Bureau of Mines.

At present, all mine workings are filled with water. The R. F. C. in 1942 made a loan of $5,000 to make the mine accessible for examination and six separate reports have been made by R. F. C. and Bureau of Mines engineers whose reports are available.

The greatest productivity of the mine was realized above the 100 foot level and decreased rapidly below this level. The applicants request for $29,600 is insufficient to accomplish his intent.

The field examiners believe further exploration on this property is not warranted and they recommend the application be denied.

We concur in this recommendation.

W. H. King
W. H. King

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 9 1952

Reviewed by
DMEA OPERATING COMMITTEE
6-13-52.
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Region IV

Building 20, Room 137
Denver Federal Center
Denver 14, Colorado
May 21, 1952

Mining Division
Date Rec'd
JUN 2 1952
BUREAU OF MINES
Denver, Colorado

Memorandum

To: Acting Chief, Mining Division, Region IV

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

Subject: DMRA 2476, Interior Metals Corporation (Roodle mine), Gilpin County, Colorado

Please find enclosed the required number of copies of the "Summary, Conclusions, and Recommendations" on the above docket, by C. M. Harrer and E. N. Harshman, and of C. M. Harrer's engineering report.

The denial, of necessity, is based entirely upon data obtained from the files of the Reconstruction Finance Corporation and one unpublished report in the Colorado Branch, Bureau of Mines, files due to the fact that the mine workings are flooded to within 25 feet of the shaft collar. All available information indicates that the loan request should be denied, as was the case previously by the Reconstruction Finance Corporation after a preliminary loan of $5,000.00 to unwater the mine for examination was expended. In addition, the applicant's estimates of cost and time required are out of line.

In this instance, the only requirement was writing a report from available data which could very well have been done by the U. S. Geological Survey examining participant. However, the suggestion was made that such procedure be followed after the engineering report was written, edited, and ready for the typist. As the work is virtually completed and in order not to disappoint the author, the engineering report is, therefore, included.

I concur with Harrer's recommendation that the loan application for $89,600.00 be denied.

The brochure supplied by the Region IV Field Team with their instructions to make a field examination is returned herewith.

Scott W Hagen
for W. M. Travers, Jr.

enclosures

WMT/amh

cc 8
DMRA 2476
Chron.

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

RCC New Customhouse
Denver 2, Colorado

May 19, 1952

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2478, Interior Metals Corporation, Doodle Mine, Gilpin County, Colorado

Attached are 8 copies of the geological report by E. W. Harshman covering DMEA Docket 2478 - Interior Metals Corporation, Doodle Mine, Gilpin County, Colorado.

The Doodle mine, a zinc-lead property, is located in the Front Range mineral belt, about 1 mile west of Central City, Colorado. The mine is flooded and the workings are inaccessible. All underground data were obtained from file reports of R. F. C. and the Bureau of Mines. These reports indicate that the highest grade ore, the most continuous ore shoots and the greatest ore widths were found between the 100-foot level and the surface. Downward, only short, discontinuous, narrow stringers of sphalerite and galena are found. Harshman points out that there is no geological evidence to indicate or suggest that the ore might be of higher grade or that the veins will occur in wider or more continuous bodies at greater depth, and he therefore recommends that the requested loan be denied.

I concur with his 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 EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA 8176, Interior Metals Corporation

Rockie Mine

Gilpin County, Colorado

Lead, Zinc, Copper, Gold, and Silver

C. M. Harrer, Mining Engineer
Bureau of Mines

E. H. Bachmann, Geologist
U. S. Geological Survey

May 21, 1952

DMEA 2476

INTERIOR METALS CORPORATION
ROGERS MINE
SILPIE COUNTY, COLORADO

Summary, Conclusions, and Recommendations

By C. M. Berger
Mining Engineer
Bureau of Mines

and

E. H. Kerghman
Geologist
U. S. Geological Survey

DMEA 2476

INTERIOR METALS CORPORATION
NOODLE MINE
GILPIN COUNTY, COLORADO

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

By C. M. Harrer and E. N. Hershman

The Interior Metals Corporation has applied for a loan of $29,600.00 under the Defense Production Act of 1950 to explore the Noodle mine, situated about 1 mile west of Central City, Eureka Mining District, in sec. 11, T. 3 S., R. 73 W., Gilpin County, Colo. The applicant proposes to unwater the mine and rehabilitate the two-compartment inclined shaft preliminary to active exploration. The downward extension of the Noodle vein will then be explored by sinking three 100-foot levels below the present bottom (300-foot level). Each 100-foot horizon will be explored with 400 to 600 feet of drifting.

Exploration of each 100-foot level below the present bottom will be dependent on whether the exploration on the level above has been encouraging and justifies it.

At present all mine workings are filled with water. Observations and conclusions are based on incomplete production records and earlier reports by engineers of the Bureau of Mines and the Reconstruction Finance Corporation.

Production is estimated at 4,000 tons of ore averaging 0.06 ounce gold and 1.7 ounces silver per ton, 0.08 percent copper, 3.4 percent lead, and 2.2 percent zinc. Records of carbonate ore high in silver are non-existent.

The greatest productivity of the Boodle mine was realized above the 100-foot level. In depth, both the extent of minable ore concentrations and valuable metal content appear to decrease. The ore in the lower levels is reported to occur in very narrow, erratic, and discontinuous streaks of sphalerite and smaller amounts of galena, in a zone of shattered schist and gouge 31 feet in width. Copper, gold, and silver are present in minor amounts.

The country rock consists of pre-Cambrian granite gneiss and schist. Locally, sphalerite also cements breccia but is very low grade.

The applicant's request for $29,600.00 is insufficient to accomplish his intent. It is estimated that between $112,000.00 and $146,000.00 would be required to complete the project in one or two years, depending on whether operations are carried out on a two-shift or single-shift basis.

The property will probably never sustain continuous or profitable mining operations, or add appreciably to present mineral production. There is no basis for an assumption that strategic mineral values will improve with depth.

The exploration proposal is not believed to be an attractive exploration venture and it is recommended that the Interior Metals Corporation application for an exploration loan of $29,600.00 be denied.

sah

INTERIOR METALS CORPORATION

BOODLE MINE

GILPIN COUNTY, COLORADO

DMEA DOCKET 2476

Geologic Report

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

INTERIOR METALS CORPORATION
BOODLE MINE, GILPIN COUNTY, COLORADO

INTRODUCTION

The Interior Metals Corporation, in OMEA Docket 2476, has asked for assistanse in exploring the Boodle mine, a zinc-lead property located about 1 mile west of Central City, Colorado. The property is now developed to a depth of 300 feet by an inclined shaft and about 1600 feet of drifting on 3 levels, shown in Fig. 2. The applicant proposes to explore the Boodle vein at greater depths by sinking the present shaft in 100 foot stages to a total inclined depth of 600 feet. The first stage would include sinking the shaft to 400 feet, 100 feet below the present lower level, and drifting on the vein 200 to 300 feet both east and west of the shaft. If ore bodies of sufficient size and grade are found on the 400 foot level to justify deeper exploration, a second stage of development, similar to the first, would be undertaken on the 500 foot level. Similarly, if development on the 500 foot level is encouraging, a third stage would include sinking the shaft to a depth of 600 feet and drifting east and west.

The applicant estimates the total cost of the 3 stages of exploration to be $29,600 and is prepared to invest $15,000 as his share of the project.

The property was examined on April 30, 1952, in the company of C. M. Harrer of the U. S. Bureau of Mines. At the time of the examination the mine was flooded and none of the workings were accessible. The discussions

which follow are based on a surface examination of the property and on reports on the underground workings by the following engineers:

Engineer	Organization	Date of report
G. O. Argall, Jr.	R. F. C.	4/17/43
C. R. Wilfley	U. S. B. M.	8/18/43
E. V. Reinhardt	R. F. C.	2/25/44
P. P. Barbour	R. F. C.	5/4/44
C. T. Linderholm	R. F. C.	6/29/44
C. I. Fismant	R. F. C.	4/26/46

The report by C. R. Wilfley is on file at the U. S. Bureau of Mines, Denver, Colorado; all other reports are on file at the Reconstruction Finance Corporation, Denver, Colorado.

GEOLOGY

The Boodle mine is located in the east-central part of the Front Range mineral belt of Colorado and on the extreme western edge of Central City-Idaho Springs mining district. According to Lovering and Goddard (1950) a northwesterly-trending anticline, the axis of which passes through Central City, has exposed a core of pre-Cambrian granite gneiss about 2 miles wide, bounded on the east and west by schists of the pre-Cambrian Idaho Springs formation. Most of the ore deposits in the district occur along zones of minor faulting, trending east to N. 45° E. with dips of 80° or more. A zonal arrangement of the ores is evident with pyrite-gold mineralization in the central portion of the district and galena-sphalerite-silver mineralization surrounding it. Uranium bearing ore has been found in the district and appears to be localized in the transition between the inner and outer zones.

The Noodle shaft is located a few hundred feet west of the surface outcrop of the contact between the granite gneiss and the schist, on the west flank of the above mentioned anticline. Although all available reports contain little or no description of the geology of the Noodle mine, it appears that the workin s west of the shaft are in the Idaho Springs schist, and that the eastern workings may have reached the granite gneiss.

The Noodle vein strikes N. 70° E. and dips from 62° to 70° N. From data in available reports, it appears that mineralization has taken place along a faulted or sheared zone which ranges from a few feet to a maximum of 9 feet wide, and averages about 4 feet wide. The greatest vein widths are found in the workings east of the shaft. To the west of the shaft the fault zone contains considerable gouge in contrast to brecciated rock reported i the workings to the east. Sphalerite and galena, with minor amounts of copper, gold, and silver, were deposited in lenticular stringers of short horizontal and vertical dimensions and narrow width. In addition to these stringers, low grade sphalerite mineralization is reported as cementing material in a breccia in the east part of the 100 and 300 foot levels.

The maximum reported length of any one stringer is "a 50 foot kidney of sulphides" located on the western end of the 300 foot level. Five samples cut in this material gave a composite assay of 6.40 % Zn and 1.85 % Pb over a width of 1.3 feet. The maximum reported width of sulphide mineralization is 6 inches. Several references are made to narrow (1 to 6 in.) stringers of sulphides which were exposed in one side of a raise or winze but did not extend to the other side.

The available reports indicate that the highest grade ore, the most continuous ore shoots, and the greatest ore widths were found between the 100 foot level and the surface. These ores were high in silver and may have come from a zone of secondary enrichment in the upper portion of the vein. The primary sulphides on the 300 foot level appear to occur in less continuous, and narrower lenses or stringers than those exposed on the 200 foot level.

All ore lying between the 300 foot level and the surface is reported as mined.

ORE RESERVES

Since the mine was not accessible at the time of the examination, ore reserves cannot be estimated.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded from the data in the reports listed in the introduction and a surface examination of the claims that mineralization in the Boodle mine consists of short, discontinuous, narrow stringers of sphalerite and galena in a faulted or sheared zone averaging 4 feet wide. Very low grade sphalerite mineralization occurs as a cementing material in brecciated wall rock. From the geological viewpoint there is no reason to believe that mineralization will become higher grade or occur in wider and more continuous bodies at greater depths. It is, therefore, recommended that the Interior Metals Corporation application for a lease, DMRA Docket 2476, be denied.

BIBLIOGRAPHY

Bastin, E. S., and Hill, J. M., Economic geology of Gilpin County and adjacent parts of Clear Creek and Boulder Counties, Colorado: U. S. Geological Survey Professional Paper 94, 1917.

Lovering, T. S., and Goddard, E. N., Geology and ore deposits of the Front Range, Colorado: U. S. Geological Survey Professional Paper 228, 1950.

DMEA 2476

YUKON MINERALS CORPORATION
BOOMER MINE
WILPIN DISTRICT, COLORADO

Engineering Report

By C. M. Barry
Mining Engineer
Bureau of Mines

DMEA 2476

INTERIOR METALS CORPORATION
BOOMER MINE
GILPIN COUNTY, COLORADO

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ILLUSTRATIONS

FIGURE — Follows Page

1. Location map, Boomer mine, Interior Metals Corporation, Gilpin County, Colorado ..... *
2. Composite plan of Boomer mine, DMEA docket 2476, Interior Metals Corporation, Gilpin County, Colorado ..... *

*See figure following geologic report.

DMEA 2476

INTERIOR METALS CORPORATION
BOOBLE MINE
GILPIN COUNTY, COLORADO

ENGINEERING REPORT

By

C. M. Barrer

INTRODUCTION

The Interior Metals Corporation has applied for a loan of $89,600.00 under the Defense Production Act of 1950 to explore the Boodle vein in depth for lead-zinc-copper sulfide ore with included gold and silver, Defense Minerals Exploration Administration docket 2476.

The applicant proposes to unwater the present mine workings to the bottom level, 300 feet below the surface, and rehabilitate the shaft as required, in preparation for active exploration below. Exploration in depth will consist of sinking the shaft on the vein, level by level, for 300 feet and exploring each 100-foot level with 400 to 600 feet of drifting, as geologic conditions indicate. Continuation of exploration of each 100-foot level below the bottom or third level will be dependent on whether exploration on the level above has been encouraging. U. S. Government participation would be on a 90 percent participation basis.

ACKNOWLEDGMENTS

Carl I. Dismant, Engineer Examiner of the Reconstruction Finance Corporation, made extensive files available to the examining team. An unpublished War Minerals memorandum, by C. R. Wilfley, of the Bureau of Mines, proved helpful. Production statistics were made available by the

Economics Division, Statistics Branch, Bureau of Mines, Region IV. E. E. Harshman, geologist, U. S. Geological Survey, accompanied the writer in the field.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The Beadle mine is about 1 mile west of Central City (fig. 1) in sec. 11, T. 3 S., R. 73 W., Eureka Mining District, Gilpin County, Colo., at an altitude of 9,100 feet. It is reached by following Colorado State Highway 279 and Eureka Street 1-1/2 miles northwest through Central City to the crest of the hill near City Cemetery. It is readily accessible by improved road and climate is favorable for year-around operations.

HISTORY AND PRODUCTION

The Beadle mine was discovered in the 1880's and has since been operated intermittently on a small scale. Early production was reported as rich, silver-bearing, lead carbonate ore from near the surface, which graded downwards to galena and sphalerite. Gross production was estimated at $150,000.00 by a former operator. Production statistics from records of the Economics Division, Statistics Branch, U. S. Bureau of Mines, Region IV, follow:

Production Statistics, Beadle Mine

Year	Ore Tons	Concentrates Tons	Ounces Gold	Ounces Silver	Pounds Copper	Pounds Lead	Pounds Zinc
1913	1104	11	6.29	138.00	-	6,264	2,839
1915	1	-	.28	8.00	-	376	-
1916	24	-	12.30	686.84	-	24,555	-
1916	3404	34	26.99	685.00	-	26,100	-
1917	216	-	12.37	7.32	-	34,320	-
1917	1,088	106	43.60	1,451.00	77	44,611	14,518
1941	22	-	4.26	-	-	-	-
1943	96	-	9.40	3.03	-	11,394	12,698
1944	163	-	22.78	389.80	587	12,485	30,793
1945	366	-	35.00	1,400.00	1,000	35,000	28,000
1946	790	79	19.00	883.00	611	24,732	23,857
1947	470	45	29.00	906.00	473	19,385	15,609
1949	60	130	3.00	160.00	116	7,134	-
Ib	3,610	276	216.27	6,177.19	2,864	246,316	127,804

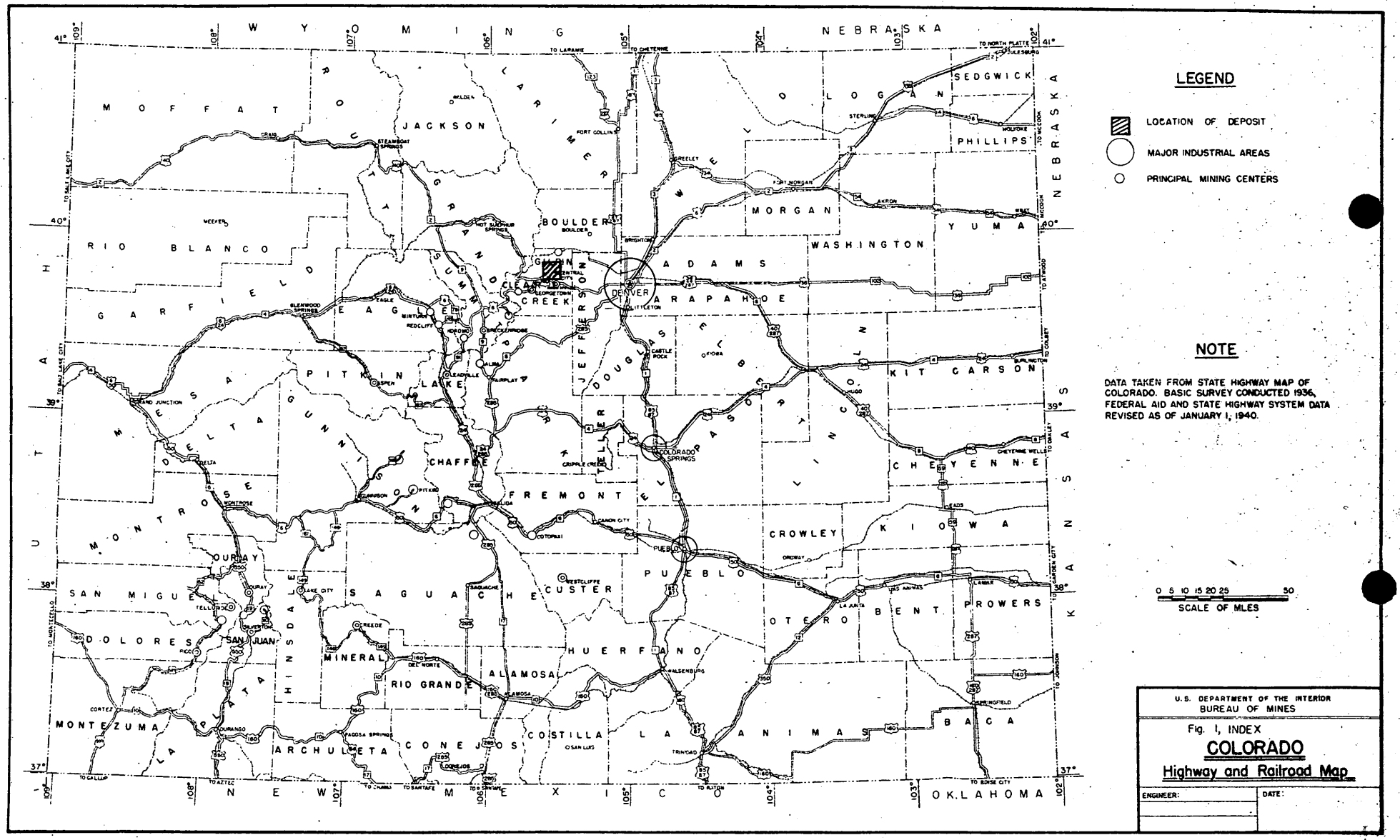

FIG. 1- LOCATION MAP, BOODLE MINE, INTERIOR METALS CORP., GILPIN CO., COLO., DMEA-2476

Total production is estimated at 4,000 tons of crude ore averaging 0.06 ounce gold and 1.7 ounces silver per ton, 0.08 percent copper, 3.4 percent lead, and 2.2 percent zinc.

During August 1948, the Reconstruction Finance Corporation granted a prior owner, Northwestern Loan and Investment Company, a loan of $5,000.00 to make the underground workings accessible to examination, under their docket C-RD-7537. Subsequent examination of underground workings was not encouraging.

The property was previously examined by the following engineers whose reports are available:

Engineer	Agency	Date of Report
S. O. Argall, Jr.	Reconstruction Finance Corporation	April 27, 1943
C. R. Wilfley	Bureau of Mines	August 16, 1943
E. V. Reinhardt	Reconstruction Finance Corporation	February 23, 1944
F. P. Barber	Reconstruction Finance Corporation	May 4, 1944
C. T. Lindberholm	Reconstruction Finance Corporation	June 29, 1944
C. I. Dimmick	Reconstruction Finance Corporation	April 26, 1946

OWNERSHIP AND EXTENT

The property comprises one patented lode claim, Bundle No. 1, survey number 6111, 150 feet by 1,500 feet, containing 5.83 acres, and one standard unpatented location adjoining to the south. The property is owned by the Interior Metals Corporation, whose officers with their addresses are as follows:

Title	Name	Address
President	W. H. Pitts	Box 453, Jonesboro, Arkansas
Secretary-treasurer	R. Downing	824 Equitable Building, Denver, Colorado
Vice President	M. L. Chamberlin	824 Equitable Building, Denver, Colorado

DESCRIPTION OF THE DEPOSITS

The Boodle vein (fig. 2 with the geologic report) strikes N. 70° E. and dips 62° NW. between the 100- and 200-foot levels and steepens to 70° NW. between the 200- and 300-foot levels. It cuts pre-Cambrian granite gneiss and schist. The structure is reported[1] as a gouge-filled fissure with an average width of 4 feet. Within the schist and clayey gouge, occasional short, interrupted, and very narrow 1- to 6-inch streaks of galena and sphalerite occur.

Stoped areas are reported[2] smaller, poorer, and less consistent on the 200-foot level than on the 100, and even less extensive on the 300 than on the 200-foot level and above. Stopes are also reported narrower on the bottom level than on the upper levels. On the 100- and 300-foot levels the vein is reported[3] to widen east of the shaft and exhibits breccia development with low grade sphalerite cementing.

The vein splits west of the shaft. On the 200-foot level, a small lens 2 feet thick carried very narrow streaks of heavy, dark sphalerite. The lens pinched out entirely within a very short distance. The south branch was barren. Workings west of the shaft show 1- to 2-inch streaks of sphalerite trending N. 40° E. into the hanging wall.

On the third or bottom level, the back of a stope east of the shaft is reported by Linderholm as poorly mineralized, with occasional narrow and short seams of galena-sphalerite. A crosscut into the hanging wall exposes two narrow stringers of galena-sphalerite.

1/ C. E. Wilfley, Unpublished War Minerals memorandum, Boodle mine, Bureau of Mines, August 1943.
2/ E. V. Reinhardt, Reconstruction Finance Corporation, Docket C-ND-7537, report, February 25, 1944.
3/ C. T. Linderholm, Reconstruction Finance Corporation, Docket C-ND-7537, report, June 29, 1944.

This property will probably never sustain continuous or profitable mining operation or add appreciably to present strategic mineral production. Galena and sphalerite with accompanying copper, gold, and silver occur in very narrow, erratic, and discontinuous streaks in a much wider and barren zone of schist and gouge. The reported occurrence of low-grade sphalerite as a breccia cement is not particularly encouraging.

SAMPLING

Third or bottom level: (Fig. 2 with the geologic report.)

A raise 236 feet east of the shaft and up 30 feet was reported as mainly barren. Two small streaks of galena-sphalerite, 2 and 5 inches thick and separated by 4-1/2 feet of barren schist and gouge, according to Lindenhoim, assayed 0.01 ounce gold and 2.9 ounces silver per ton, 0.2 percent copper, 6.4 percent lead, and 8.9 percent zinc.

Following are the results of character sampling of the bottom level by Reinhardt.

Five samples taken west of the shaft, over a length of 30 feet and an average width of 1.3 feet, averaged 0.16 ounce gold and 1.64 ounces silver per ton, 0.22 percent copper, 1.33 percent lead, and 6.40 percent zinc.

Three samples taken east of the shaft over an average width of 1.6 feet averaged 0.023 ounce gold and 1.12 ounces silver per ton, 0.096 percent copper, 3.96 percent lead, and 4.78 percent zinc.

A sample from the sump below the third level and over a width of 3.4 feet assayed a trace of gold and 0.54 ounces silver per ton, 0.11 percent copper, 0.20 percent lead, and 1.60 percent zinc.

ORE RESERVES

There are no known ore reserves. The mine workings are under water and available reports indicate the mine is worked out above the 300-foot level.

PRESENT STATUS

Exploration and Development

The mine (fig. 2 with the geologic report) is developed by a two-compartment, inclined shaft sunk 315 feet on the Beadle vein, with four levels driven east and west at slope depths of 65, 100, 200, and 300 feet. The mine is now filled with water to within 25 feet of the shaft collar. Stoping was concentrated above the 100-foot level in a zone extending 100 feet east and 300 feet west of the shaft. A few small stopes were reported driven on the 200- and 300-foot levels on small, local concentrations of ore.

The 100-foot level is reported driven 160 feet east and 400 feet west of the shaft.

The 200-foot level extends about 160 feet east and 400 feet west of the shaft and is partly caved.

The 300-foot level extends about 160 feet east and 300 feet west of the shaft.

A sump extends about 15 feet below the 300-foot level.

Mining and Milling Equipment

The mine is well equipped, with a substantial headframe and buildings in good repair. Existing equipment, buckets, and a second motion, geared, electric hoist and all necessary electrical accessories are in place and serviceable with a minimum of rehabilitation. The compressor room and shops adjoining contain an electric-driven, Imperial type 10, two-stage,

Ingersoll-Rand compressor which appears serviceable and adequate for exploration needs.

Buckets dump directly into the mill-head bin, with arrangements for handling waste rock to the dump.

A small mill, reputed to have a capacity of 40 tons, is inadequate to produce anything but a crude, bulk lead-zinc-copper-gold-silver concentrate. It is equipped with a bar grizzly, small jaw crusher, a Chilean mill, reagent feeders, a 4-cell Norse Brothers flotation machine, and two Wilfley tables. All equipment is electric powered.

PROJECT PROPOSALS, WITH COSTS

Exploration and Development

The Interior Metals Corporation proposes to unwater the Boodle mine and rehabilitate the shaft as a preliminary to active exploration. It proposes to explore the downward extension of the Boodle vein by sinking three succeeding 100-foot lifts, with 400 to 600 feet of drifting on each level. Exploration of each succeeding 100-foot level below the present bottom or 300-foot level will be dependent on whether exploration on the level above has been encouraging. The applicant expects to complete each level of exploration in 120 days, and the entire project in about 365 days.

Estimates by the examining engineer indicate that the full project would cost between $112,000.00 and $146,000.00 and would require between one and two years to complete, depending upon whether two shifts or one shift per day are worked.

Key Equipment

The project would require pumping and mining equipment.

Transportation

Ready access is had over improved roads to Central City and neighboring Denver.

Manpower

Labor is obtainable locally. Miners are paid $1.75 per hour; hoistman and underground labor, $1.50 per hour.

Power

Power facilities of the Public Service Company of Colorado are available on the property.

Water

Ample water for all requirements is available from mine drainage, nearby Bunker Creek, and the Central City water system.

PROPOSED FINANCING

The applicant states that he can contribute $15,000.00 towards his share of the proposed $29,600.00 exploration loan. In addition, he offers the use of an electric-powered compressor and mine hoist at $850.00 and $100.00 per month, respectively.

CONCLUSIONS

The greatest productivity of the Beadle mine was realized above the 100-foot level. In depth, both the extent of mineable ore concentrations and the valuable metal content appear to have decreased. The ore in the lower horizons is reported to occur in very narrow, erratic, and discontinuous streaks, as galena and sphalerite with accompanying copper, gold, and silver in a much wider barren zone of schist and gouge. The vein, predominantly barren, is reported to average 4 feet in width, thickening up to 9 feet to the east of the shaft. Sphalerite, cementing breccia, is very low grade.

Past production is estimated as 4,000 tons of ore averaging 0.06 ounce gold and 1.7 ounces silver per ton, 0.08 percent copper, 3.4 percent lead, and 2.2 percent zinc. Records of production of carbonate ores high in silver are non-existent.

The property will probably never sustain a continuous or profitable mining operation or add appreciably to present strategic mineral production. There is no basis on which to assume that strategic mineral values will improve with depth. The exploration proposal is not believed to be an attractive venture.

The estimate of $89,600.00 by the Interior Metals Corporation to complete the proposed exploration program is inadequate. A preliminary estimate by the Bureau of Mines engineer indicates that the project would require between $112,000.00 and $146,000.00 and between 1 and 2 years to complete, depending on whether two-shift or single-shift operations were carried on.

RECOMMENDATIONS

It is recommended that the application of Interior Metals Corporation for an exploration loan of $89,600.00 be denied.

mmh

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

224 New Customhouse
Denver 2, Colorado

April 4, 1952

Memorandum

To: Acting Administrator, Defense Minerals Exploration Administration
Attention: Code 210

From: Executive Officer, Field Team, DMEA, Region IV

Subject: Docketing for Exploration Assistance

Enclosed in duplicate are the applications and Forms 3a pertaining to the following applications for Government assistance in exploration work:

Al Stovall & Sons
1644 Palmcroft Drive
Phoenix, Arizona — DMEA-2477

Interior Metals Corporation
P. O. Box 453
Jonesboro, Arkansas — DMEA-2476

J. H. East, Jr.

J. H. East, Jr.

Enclosures

Returned to Region: DMEA-2476 - One copy each MF-103 & 100 with attachments and 2 maps.

DMEA-2477 - One copy each MF-103 & 100, one copy of Mining Lease, and one map.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
APR 7 1952

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

MF-103 Should Be Filed With General Technical Data Form MF-100

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

Not To Be Filled in by Applicant

Docket No. DMEA-2476
Metal or Mineral
Date Received 4-7-52
Amount $
Participation (Government %)

Name and address of applicant

Interior Metals Corporation
P. O. Box 453, Jonesboro, Arkansas
Resident office:
824 Equitable Building
Denver, Colorado

Date March 1, 1952

If you have already filed MF-100, give date filed March 1, 1952, type of assistance requested D. M. A. 50% loan,

DMA Docket Number (if available)

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

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

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

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

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find?

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

DEPARTMENT OF THE INTERIOR
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The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

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

CERTIFICATION

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

Interior Metals Corporation
(Name of company)

By [signature]
(Signature of authorized official)

March 1, 1952
(Date)

President
(Title)

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

U. S. GOVERNMENT PRINTING OFFICE 16—64067-2

Accompanying Sheet No. 1
Form MF-103
(Revised June 1951)

Interior Metals Corporation
P. O. Box 453, Jonesboro, Arkansas
Resident office:
824 Equitable Building
Denver, Colorado

1. (a) Boodle lode claims Nos. 1 and 2, Claim No. 1 being patented as No. 6111, together with 40-ton mill and equipment and 300-foot shaft with equipment.

   (b) Owner

   (c) Boodle Claim No. 6111 150 feet by 1500 feet containing 5.83 acres in Section 11, Twp. 3 S., R. 73 W., Gilpin County, Colorado.

2. (a) Lead, zinc, and varying percentages of other values, generally found in that area, including gold, silver, and copper.

   (b) Cross-section maps attached hereto showing shaft of 300-foot depth, drifts in both directions from shafts on 100, 200, and 300-foot levels, following the vein, have proven the area to that depth. Therefore, it is expected that by going deeper, similar values may be found with depth.

3. (a) Propose to sink shaft in exploration following the vein for three more levels of 100 feet each and drifting to 300 feet in each direction on 400, 500, and 600-foot levels, for a total cost, as outlined below, estimated to be $29,600.00, but exploration to be made in three stages, the 400-foot level deepening in the shaft 100 feet from its present 300-foot level and drifting two to three hundred feet in each direction, then by the results of this work, to determine if feasible the continuation of the second and third phase of exploration for additional 100 feet exploration in the second phase and then if findings justify, continuation to make exploration of the third phase of plans.

   (b) Should start within thirty days after approval of loan and complete the exploration of each 100-foot plan in about 120 days each.

4. Maps enclosed herewith.

5. 40-ton all-electric fully-equipped mill, with buildings and installations, 300-foot shaft with necessary installations, requiring only minor and incidental repairs.

Accompanying Sheet No. 2
Form MF-103
(Revised June 1951)

Interior Metals Corporation
P. O. Box 453, Jonesboro, Arkansas
Resident office:
824 Equitable Building
Denver, Colorado

6. No new buildings required and only small incidental pieces of equipment such as hose, vent pipe, pumps, etc.

7. (a) Compressor - $250.00 per month
Hoist - 100.00 per month

(b) None

(c) All other equipment

8. 3 miners and 1 timberman @ $1.50 per hour
3 muckers and 2 tram men @ $1.40 " "
2 hoistmen at $1.50 per hour
1 superintendent @ $400.00 per month

9.

Materials, lumber, pipe, pumps, etc.	$ 3,500.00
Supplies, powder, fuse, oil, gas, etc.	6,900.00
Power	1,500.00
Labor	12,750.00
Rentals	1,200.00
Miscellaneous supplies and contingencies	3,750.00
	$ 29,600.00

10. (a) $15,000.00

(b) Yes.

11. I will be unable to start or complete the project without a definite commitment from D. M. A.

Form MF-100
(May 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Form approved.
Budget Bureau No. 42-R1026.

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

NOT TO BE FILLED IN BY APPLICANT

Docket No. DMEA-2476

Date received 4-7-52

Interior Metals Corporation
Box No. 453, Jonesboro, Arkansas
Resident office:
824 Equitable Building
Denver, Colorado

Name and address of applicant

Date March 1, 1952

INSTRUCTIONS

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

GENERAL TECHNICAL DATA

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

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

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 7 1952

5. Number of years in production _____

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

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

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

Name and Address (a)	Official Title (If officer is also director indicate by "D") (b)	Total of Annual Salary, Commissions, Bonuses, Etc., Received From Applicant and Affiliates During Last Fiscal Year (c)	Estimated Net Worth Outside of Interest in Applicant (d)	Number of Shares Held in Applicant Corporation: Common (e)	Number of Shares Held in Applicant Corporation: Preferred (f)	Life Insurance Carried for Benefit of Applicant: Amount (g)	Life Insurance Carried for Benefit of Applicant: Net Cash Surrender Value After Loans (h)
A. H. Pitts Box 453, Jonesboro, Arkansas	President	None		49,998		None	
Richard Downing 824 Equitable Bldg. Denver, Colorado	Sec.-Treas.	None		1		None	
Marguerite L. Chamberlin 824 Equitable Bldg. Denver, Colorado	V. P.	None		1		None	
	Total		x x x x x	50,000		x x x x x	x x x x x

If more lines are needed continue on separate sheet.

9. Capital Stock Issues:

For Corporate Applicants

Item	Authorized (a)	Outstanding (b)	Par Value (c)	Number of Shares Outstanding (d)	Dividend Rate Last Paid* (e)
Common stock	$100,000	$50,000	$ 1.00	50,000	None
Preferred stock	$ None	$	$		

*Indicate period covered.

10. Production:

Item	Kind of Product (a)	1948 Total (b)	1949 Total (c)	1950 Total (d)	Present Average Monthly (e)
1. Quantity of product mined or quarried (Short, long, metric tons; barrels; pounds; etc.)				None	None
2. Quantity of product processed (specify unit of measure and type of process)				None	None
3. Quantity and grade of product sold or shipped (specify units of measure)				None	None

11. Do you contemplate a change in the present average monthly rate of production? If so, state estimated maximum monthly production and basis of change. It is estimated that a possible capacity of 1200 tons monthly may be reached.

12. Ore or Mineral Reserves:

(a) Describe the ore or mineral deposit briefly. Accompany the application by any available report on the geology and ore reserves. The ore being found in a fissure vein, and thereby proven for a present depth of 300 feet vertically and two to three hundred feet in each direction from the shaft

16—63792-1

Accompanying Sheet No. 1
Form MF-100
(May 1951)

Interior Metals Corporation
P. O. Box 453, Jonesboro, Arkansas
Resident office:
824 Equitable Building
Denver, Colorado

GENERAL TECHNICAL DATA

1. (a) Lead, zinc, and varying percentages of gold, silver, and copper
   (b) None

2. (a) 300 linear feet
   (b) About 800 linear feet
   (c) None
   (d) None

   Having been shut down for about three years, the mine is now flooded. It would take probably about three or four days' pumping to dewater the mine. It would take approximately three hours' pumping out of 24 hours each day, with a 2-inch pump to keep all parts of the mine free from water when in operation.

3. (a) approximately 1 mile west of Central City
   (b) Eureka
   (c) Sec. 11, Twp. 3 S., R. 73 W., Gilpin County, Colorado
   (d) Gilpin County, Colorado

4. (a) Not in operation at present
   (b) Owner

5. Approximately 5 years
   Exploration for additional ore will begin immediately after approval of loan and if exploration is favorable, production should begin within two to four months after start of exploration.

6. Qualified and experienced personnel will be used at all times and proven and recognized methods will be employed to carry on businesslike operation.

7. (a) The records available date back to 1917 and for a period immediately thereafter; then on account of general conditions, activity seemed to cease due to various reasons. The property was then reactivated in the early 40's, and production records in possession

Accompanying Sheet No. 2
Form MF-100
(May 1951)

Interior Metals Corporation
P. O. Box 453, Jonesboro, Arkansas
Resident office:
824 Equitable Building
Denver, Colorado

7 (a) Contd.

GENERAL TECHNICAL DATA (Contd.)

of the former owners seem to have been lost. Some mining was done in 1948 and early 1949, but apparently when the price of lead took a severe drop, and the third and last level was mined out, the property was closed down and it has not been operated since.

(b) The adjoining and neighboring properties in every direction were worked extensively in the 1880's and 1890's and to some extent, ever since that time, this being a well-known and recognized mining area and generally considered one of the best sections in the state.

(c) Records of the Bureau of Mines for a period from 1915 to 1917 are attached hereto. The shaft is now following the Boodle vein and is generally thought to contain considerable values with depth, especially since this shaft is now only 300 feet deep.

13. Paved roads within one mile; railroad within 25 miles. Improved road from end of pavement to property. Accessible year around.

14. Good all year, as supply is available from Central City.

15. Public Service power.

16. Plan 3 miners, 1 hoist man, 2 mill men, 1 timberman, 2 muckers, 1 superintendent.

17. Shaft, hoists, pumps, mine cars, and other equipment except small incidental are own property, together with 40-ton mill in fair to good condition and buildings in good condition.

18. Our best information is that the shaft to its present depth of 300 feet has more or less continuously followed paying ore and it is generally expected to follow in the same manner by deepening the shaft and extending the drifts.

PARTIAL OLD PRODUCTION RECORD
BOODLE MINE
CLAIM NO. 6111
SEC. 11, TWP. 3 S.
Range 73 W., Gilpin County
Colorado

YEAR	CRUDE ORE PRODUCED	CONCENTRATES PRODUCED	LEAD lbs.	ZINC lbs.	GOLD oz.	SILVER oz.	COPPER lbs.
1915		11 tons	6,264 lbs.	2,839	6.29	138.0	0
			376	-	0.28	8.0	-
1916		34 "	26,100	-	26 .99	685.0	-
		25 "	662	-	9.59	258.0	-
1917	176 tons	63 "	29,382	5,303	25.25	853.0	77
		18 "	4,567	9,215	8.76	340.0	-
	40 "	-	34,320(ore)	-	12.31	732.0	-
	216 "	106 "	44,611	14,518	55.97	1,451.0	77

horizontally, we expect exploration will prove a continuation of the same ore and characteristics.

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

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

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

TOTAL ORE OR MINERAL RESERVES

Ore or Mineral Reserve	Estimated Tons (a)	Metal or Mineral Content Per Ton (Grade) (b)	Gross Value Per Ton (c)	Recoverable Unit Value Per Ton (d)	Estimated Cost of Production Per Ton (e)
Measured (proved)	None				
Indicated (probable)	Unknown				

(*c*) If placer:

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

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

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

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

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

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

13. Access Roads:

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

14. Water Supply:

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

15. Power:

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

16. Labor:

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

17. Equipment and Facilities:

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

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

CERTIFICATION

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

Interior Metals Corporation
(Name of Company)

By M. E. Ross
(Signature of authorized official)

March 1, 1952

President
(Title)

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

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

PARTIAL OLD PRODUCTION RECORD
BOODLE MINE
CLAIM NO. 6111
SEC. 11, TWP. 3 S.
Range 73 W., Gilpin County
Colorado

YEAR	CRUDE ORE PRODUCED	CONCENTRATES PRODUCED	LEAD lbs.	ZINC lbs.	GOLD oz.	SILVER oz.	COPPER lbs.
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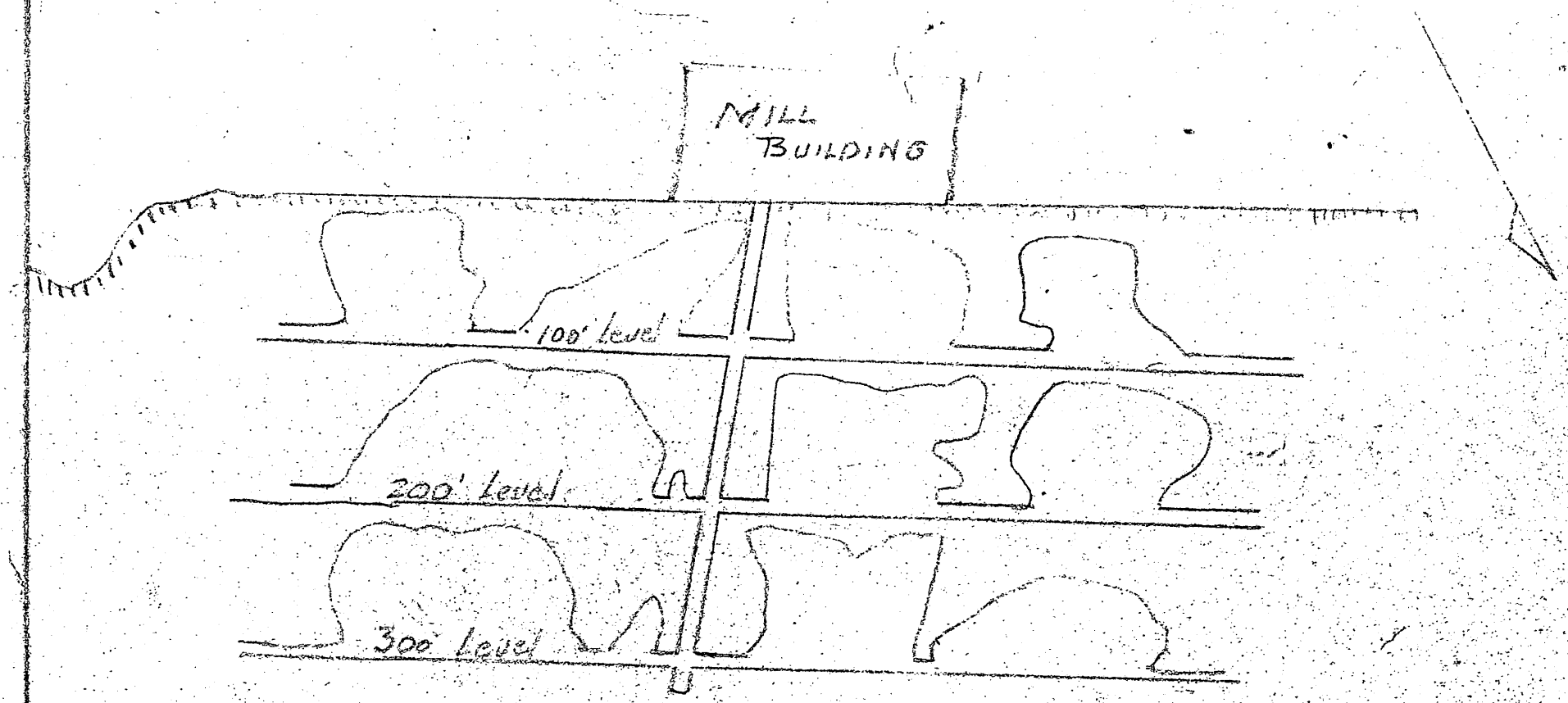
1916		34 "	26,100	-	26 .99	685.0	-
		25 "	662	-	9.59	258.0	-
1917	176 tons	63 "	29,382	5,303	25.25	853.0	77
		18 "	4,567	9,215	8.76	340.0	-
	40 "	-	34,320(ore)	-	12.31	732.0	-
	216 "	106 "	44,611	14,518	55.97	1,451.0	77

Mr. John Ford
Room 5129
General Services Administration
Washington 25, D. C.

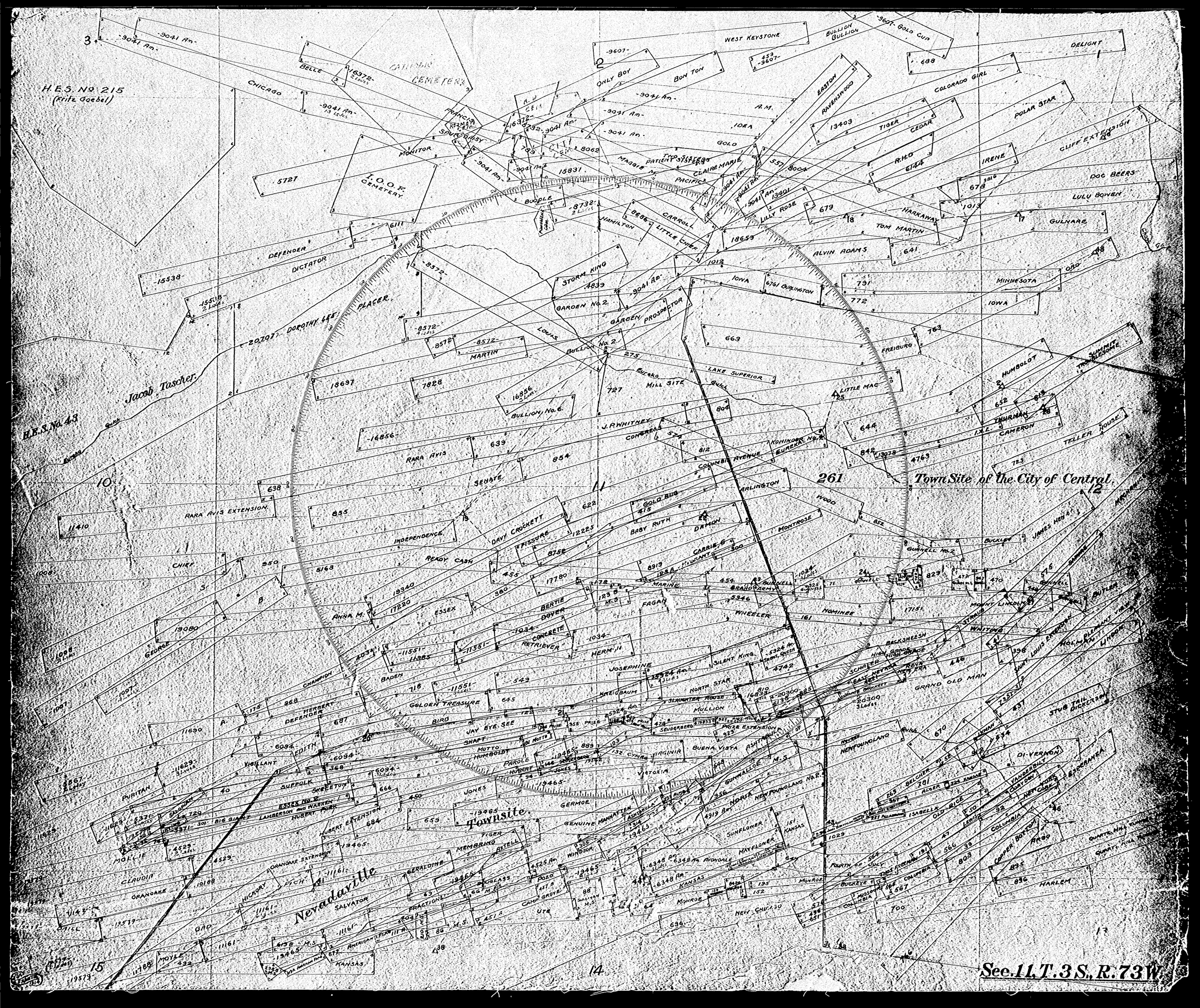
Run_____ Stop_____



Boodle Mine
Boodle Patented Claim #6111
Sec 11 Township 3S Range 73W
5.83 Acres

Drawn from memory APRIL 1952

INTERIOR METALS CORPORATION
UNDERGROUND WORKINGS
GILPIN COUNTY Colorado
SCALE 1 INCH = 100 FT.


Town Site of the City of Central
261
See. 11, T. 3 S., R. 73 W.
Townsite
Nevadaville
H.E.S. No. 215
(Fritz Goebel)
H.E.S. No. 43
Jacob Tascher
I.O.O.F. CEMETERY
CATHOLIC CEMETERY
WEST KEYSTONE
BULLION BULLION
GOLD CUP
DELIGHT
COLORADO GIRL
POLAR STAR
CLIFF EXTENSION
DOG BEERS
LULU BOWEN
GULNARE
ONLY BOY
BON TON
A.M.
IDEA
GOLD
EASTON
RAVENSWOOD
TIGER
CEDAR
R.H.D.
IRENE
HARKAWAY
TOM MARTIN
ALVIN ADAMS
MINNESOTA
ORO
IOWA
FREIBURG
HUMBOLDT
SUMMIT
TROUBLESOME
INURNAM
I.X.L.
CAMERON
TELLER HOUSE
LITTLE MAC
LAKE SUPERIOR
MILL SITE
J.P. WHITNEY
CONGRESS
KOHINOOR No. 2
EUREKA No. 2
COLUMBIA AVENUE
ARLINGTON
WOOD
MONTROSE
GOLD BUG
BABY RUTH
DAMON
CARRIE G.
GUNNELL No. 2
BUCKLEY
JAMES HEW
MOUNT LINCOLN
STRAUB
WHITING
BUTLER
HOLMPLEASANT VIEW
LITHOPA
SAINT LOUIS EXPOSITION
GRAND OLD MAN
STUB TAIL DICKERSON
DI-VERNON
VANDERBILT
COPPER BOTTOM
HARLEM
MAGGIE M.
PATIENT SISTERS
CLAIRE MARIE
PACIFIC
LILLY ROSE
CARROLL
LITTLE CHIEF
HAMILTON
BOOPLE
MONITOR
BELLE
CHICAGO
DEFENDER
DICTATOR
DOROTHY LEE
PLACER
STORM KING
GARDEN No. 2
GARDEN PROSPECTOR
LOUIS
BULLION No. 2
MARTIN
BULLION No. 6
RARA AVIS
RARA AVIS EXTENSION
SENATE
INDEPENDENCE
DAVY CROCKETT
FISSURE
READY CASH
CHIEF
ANNA M.
ESSEX
BERTIE
DOVER
CONCRETE
RETRIEVER
HERM
GEORGE
CHAMPION
BADEN
GOLDEN TREASURE
BIRD
JAY EYE SEE
SHAFT
MOTTO
HUMBOLDT
PAROLE
HUBERT
JONES
VIGILANT
EDITH
PURITAN
SUFFOLK
SKEETON
ESSEX No. 2
LAMBERSON AND WARREN
HUBERT EXTENSION
MOLLIE
CLAUDIA
ORANGAKE
ORANGAKE EXTENSION
HICKORY
PITCH
SALVATOR
GAD
MOYLE
KANSAS
GERALDINE
MEMBRINO
ATELL
FRACTIONAL
AMERICAN FLAG
GERMOE
GENUINE MANHATTEN
TIGER
POZO
CAMP GROVE
UTE
WINDOR
SULLIVAN
JOSEPHINE
KREIGBAUM
NORTH STAR
SILENT KING
SILENT QUEEN
SLAUGHTER HOUSE
MULLION
SCHAEFER
BACKSHEESH
HIGH GRADE
EAST MEXICO
MERIDA
PRIZE
PRIZE EXTENSION
SEUDERBERG
BUENA VISTA
ASHTABULA
VIRGINIA
VICTORIA
GUNNELLOE
NEWFOUNDLAND
NEWFOUNDLAND No. 2
HORSA
SUNFLOWER
MAYFLOWER
AVONDALE
MONROE
NEW CHICAGO
FOURTH OF JULY
BUCKEYE
COLUMBIA
MISSOURI
ISABELLA
OLD DICE
ALBER
BELCHER
CORTLANDT
NEW YORK
SPECRAMER
QUARTZ HILL
SUNRISE
GUNNELL
BRAND ARMY
WHEELER
NOMINEE
FAGAN
MARINE
BABY
LIEUTANT
BERTIE
CONCRETE
HERM
GOLDEN TREASURE
DEFENDER
HERBERT
PRIZE
SEUDERBERG
GUNNELLOE
NEWFOUNDLAND
HORSA
SUNFLOWER
MAYFLOWER
AVONDALE
KANSAS
MONROE
NEW CHICAGO
FOURTH OF JULY
BUCKEYE
COLUMBIA
MISSOURI
ISABELLA
OLD DICE
ALBER
BELCHER
CORTLANDT
NEW YORK
SPECRAMER
QUARTZ HILL
SUNRISE
COPPER BOTTOM
HARLEM
MOUNT LINCOLN
STRAUB
WHITING
BUTLER
HOLMPLEASANT VIEW
LITHOPA
SAINT LOUIS EXPOSITION
GRAND OLD MAN
STUB TAIL DICKERSON
DI-VERNON
VANDERBILT
CORTLANDT
NEW YORK
SPECRAMER
QUARTZ HILL
SUNRISE
COPPER BOTTOM
HARLEM
10
11
12
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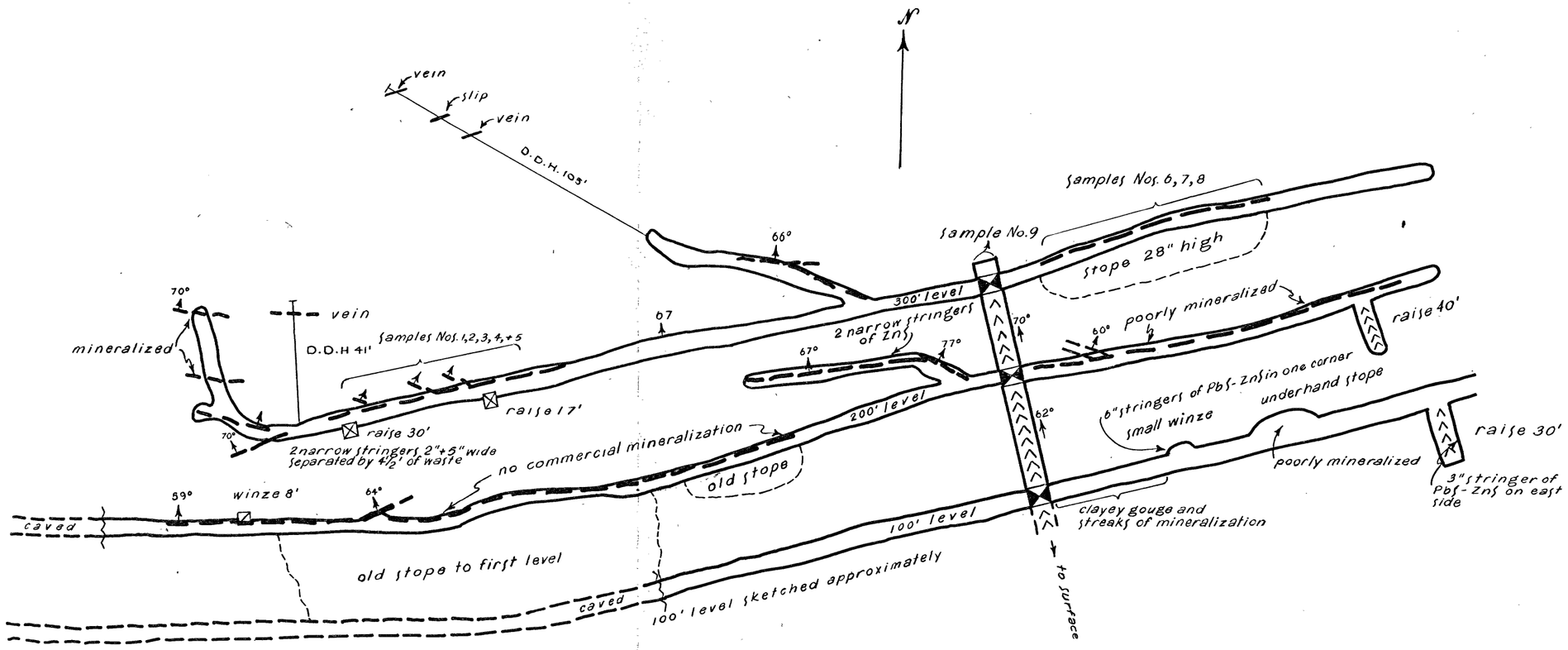
14
15



ASSAYS (by E.V. Reinhardt, R.F.C)

SAMPLES	WIDTH	Pb%	Zn%
1 to 5 composite	1.3'	1.55	6.40
6 to 8 "	1.6'	6.20	7.45
9	3.4'	0.20	1.60
In raise on 300' level 236' west of shaft	not given	6.40	8.90

Note: *Heavy dashed symbol shown on plan of workings probably represents vein material, but not necessarily Pbs or Zns mineralization.*

Department of Interior
U. S. GEOLOGICAL SURVEY

INTERIOR METALS CORP.
BOODLE MINE
Gilpin County, Colorado
Fig. 2 Composite plan of Boodle Mine
DMEA Docket 2476

SCALE
40 0 40 80 FT.

All data compiled by E.N. Harshman, U.S.G.S. from RFC reports

May, 1952