UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
200 New Customhouse
Denver 2, Colorado

December 29, 1952

Memorandum

To: DMEA Field Team, Region IV

From: A. H. Koschmann

Subject: DMEA Docket 2727, Nelly Bly Group, C. W. Horzmann-Applicant, Hidalgo County, New Mexico.

Enclosed are the original and 8 copies of the geologic report by J. N. Falck of the U. S. Geological Survey, covering the above docket.

It has been recommended that the loan be denied.

A. H. Koschmann
Supervising Geologist
Colorado-Wyoming

Enclosures (9)

UNITED STATES
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Colorado-Wyoming

Enclosures (9)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P.O.Box 4126, University Station
Tucson 5, Arizona

December 24, 1958

Memorandum

To: A. H. Kaschmann, Denver, Colorado

From: A. F. Shride, Tucson, Arizona

Subject: Geologic Report, IMMA 2(W), Nally Bly Group, C. W. Mortzmann-Applicant, Hidalgo County, New Mexico (Copper-Cobalt)

Enclosed are the original and 8 copies of the above report by J. N. Faick of the Geological Survey.

This report and the recommendation that an exploration loan be denied for lack of geologic potential of significant amounts of copper ores have my approval. Cobalt is not known on these properties.

A. F. Shride
Acting District Supervisor
Arizona-New Mexico

Enclosures 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
P.O.Box 4126, University Station
Tucson 5, Arizona

December 24, 1952

Memorandum

To: A. H. Koschmann, Denver, Colorado

From: A. F. Shride, Tucson, Arizona

Subject: Geologic Report, IMEA 2787, Nelly Bly Group, C. W. Horzmann-Applicant, Hidalgo County, New Mexico (Copper-Cobalt)

Enclosed are the original and 8 copies of the above report by J. N. Faick of the Geological Survey.

This report and the recommendation that an exploration loan be denied for lack of geologic potential of significant amounts of copper ores have my approval. Cobalt is not known on these properties.

A. F. Shride
Acting District Supervisor
Arizona-New Mexico

Enclosures 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

January 19, 1953

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, RFC Docket 2727, (Copper & Cobalt) Carl W. Hermann, Daily Sky Group, Hidalgo County, New Mexico

Enclosed are nine copies of the final engineering report on the subject docket.

The applicant requested $35,500 to explore his property by a Geophysical Survey, Core Drilling and trenching.

The examining engineer found no evidence of the existence of cobalt. The mine shafts were inaccessible but the examination of several open surface stopes and shallow open cuts and pits indicated this property is not considered sufficiently promising to warrant Government participation. We recommend that the application be denied and we concur in this recommendation.

W. H. King
W. H. King

Enclosures

Reviewed by
BMEA OPERATING COMMITTEE
1-30-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

January 19, 1953

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, BMEA Docket 2727, (Copper & Cobalt) Carl W. Hermmann, Nelly Nly Group, Hidalgo County, New Mexico

Enclosed are nine copies of the final engineering report on the subject docket.

The applicant requested $35,500 to explore his property by a Geophysical Survey, Core Drilling and trenching.

The examining engineer found no evidence of the existence of cobalt. The mine shafts were inaccessible but the examination of several open surface stopes and shallow open cuts and pits indicated this property is not considered sufficiently promising to warrant Government participation. He recommends that the application be denied and we concur in this recommendation.

W. H. King
W. H. King

Enclosures

Reviewed by
BMEA OPERATING COMMITTEE
1-30-53
(date)

COPY

224 New Customhouse
Denver 2, Colorado

January 19, 1953

Mr. Carl W. Horzmann
P. O. Box 184
Lordsburg, New Mexico

Re: DMEA Docket 2727

Dear Mr. Horzmann:

Reference is made to your application for Government aid on the Nelly Bly Copper Group.

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 of strategic copper and cobalt by your proposed exploration program is not considered sufficiently promising to justify Government participation. Under these circumstances we regret to advise you that your application for exploration aid is denied.

Very truly yours,

/s/
W. H. King

/s/
A. H. Koschmann

HMC:oc
CC: Administrator
WRStorms
Subject
Chron.
Koschmann (2)

Reviewed by
DMEA OPERATING COMMITTEE

1-30-53
(date)

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

224 New Customhouse
Denver 2, Colorado

January 19, 1953

Mr. Carl W. Normann
P. O. Box 184
Lordsburg, New Mexico

Re: DMEA Docket 2727

Dear Mr. Normann:

Reference is made to your application for Government aid on the Nelly Bly Copper Group.

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 of strategic copper and cobalt by your proposed exploration program is not considered sufficiently promising to justify Government participation. Under these circumstances we regret to advise you that your application for exploration aid is denied.

Very truly yours,

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

HMC:oc

cc: Administrator
WRStorms
Subject
Chron.
Koschmann (2)

Reviewed by
DMEA OPERATING COMMITTEE
1-30-53
(date)

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

224 New Customhouse
Denver 2, Colorado

Department of the Interior
Defense Minerals Administration

January 19, 1953

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2727, (Copper and Cobalt) Carl W. Horzmann, Nelly Bly Group, Hidalgo County, New Mexico

Enclosed are four copies of the final report on DMEA-2727, two copies of Form 3b, and a copy of the letter of denial to the applicant.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE

1-30-53
(date)

2/2/53 [illegible]

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

[illegible] New Customhouse
Denver 2, Colorado

January 19, 1953

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2727, (Copper and Cobalt) Carl W. Kormann, Nelly Ely Group, Hidalgo County, New Mexico

Enclosed are four copies of the final report on DMEA-2727, two copies of Form 3b, and a copy of the letter of denial to the applicant.

W. H. King
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
1-30-53
(date)

MINING DIVISION
REGION IV

January 14, 1953

Memorandum

To : W. H. King, Chief, Mining Division, Region IV

From : Chief, Mining Methods Branch, Mining Div., Region IV

Subject : Final Report, Docket DMEA-2727, Nellie Bly Copper Group, Lordsburg Mining District, Hidalgo County, N. Mex.

Enclosed are original and eight copies of the section on Summary, Conclusions and Recommendations by John N. Faick of the Geological Survey and Charles A. Kumke of the Bureau of Mines, and the section on Engineering by Kumke for the above report.

Because the vein is very narrow and the chance of discovering any worthwhile amount of copper ore seems remote, the examiners recommend that an exploration loan be denied the applicant. I concur with their recommendations.

The Geological Report, recommending denial of a loan, was submitted by the Geological Survey on December 24.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC: W. H. King (8)
DMEA-2727
DF

WRStorms:als

MINERALS DIVISION
L.R. IV

January 14, 1953

Memorandum

To : L. J. King, Chief, Mining Division, Region IV

From : Chief, Mining Methods Branch, Mining Div., Region IV

Subject : Final Report, Docket MLA-2727, Collie Lily Copper Group, Hardsburg Mining District, Hidalgo County, Tex.

Enclosed are original and eight copies of the section on Summary, Conclusions and Recommendations by John L. Pelck of the Geological Survey and Charles A. Hunto of the Bureau of Mines, and the section on Engineering by Hunto for the above report.

Because the vein is very narrow and the chance of discovering any worthwhile amount of copper ore seems remote, the examiners recommend that an exploration lease be denied the applicant. I concur with their recommendations.

The Geological Report, recommending denial of a lease, was submitted by the Geological Survey on December 24.

Procedure is enclosed.

Walter R. Storms

Walter R. Storms

cc: L. H. King (3)
MLA-2727
CF

WRStorms:als

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA-2727, Nellie Bly Copper Group

Lordsburg Mining District

Hidalgo County, New Mexico

John N. Faick, Geologist
U. S. Geological Survey

Chas. A. Kumke, Mining Engineer
U. S. Bureau of Mines

January 1953

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By John N. Faick[1] and Chas. A. Kumke[2]

It was requested in October 1952, by the Operating Committee, Defense Minerals Exploration Administration, that the Field Team, Region IV, examine the Nellie Bly group in Hidalgo County, N. Mex. Applicant C. W. Horzman of Lordsburg, N. Mex. was asking for assistance in exploring his property, a copper prospect. The presence of cobalt also was mentioned in the application. The property is situated 6.5 miles south of Lordsburg, N. Mex.

It was proposed by the applicant that a geophysical survey be made of the most favorable portions of the Nellie Bly, Billie A, and Leitendorf claims. Some trenching and bulldozer work also was proposed as well as a considerable amount of core drilling. No underground work was proposed at this time.

On December 3, 1952, Chas. A. Kumke, Robert W. Ageton,[2] and John N. Faick visited the property. They examined several open surface stopes and a number of shallow open-cuts and pits that were found on the veins.

There are several old shafts on the property. The deepest is on the Nellie Bly claim. An old map, showing a vertical section of this shaft, places the depth at 400 feet. All others are of lesser depth. There are no timbers or ladders in any of these shafts. The entire property has been stripped bare of all buildings, headframes, equipment, tools, and timbers, leaving the mine workings inaccessible.

1/ Geologist, U. S. Geological Survey
2/ Mining Engineer, U. S. Bureau of Mines

The mine water stands at 100 feet below the surface. Horzman believes that no one has gone down in the mine for over 20 years.

The presence of cobalt in any of the numerous surface workings could not be detected by the examining engineers. Later spectroscopic tests on seven samples taken of the wall-rock and vein also gave negative results for cobalt.

Copper occurs chiefly as a sulfide but also as carbonates in quartz-calcite veins cutting basalt and quartz latite. The vein varies from a few inches to three or more feet in width. The camp originally was active as a silver producer. The high-grade ore occurs as a rich pay-streak of several inches in width. This pay-streak contains the copper sulfide. The copper values increase as the silver values advance. During two years of steady production, the Nellie Bly vein produced one 25-ton carload of ore per week. Average copper assays of this ore was slightly over 5 percent.

Cut samples taken by the examining engineers of the wall-rock of the Nellie Bly and Billie A veins assayed less than 0.3 percent copper, a trace in gold, and less than a half ounce in silver. These samples were to determine whether or not the vein values continued into the wall rock. There is no reason to expect a decided improvement either in the strength of the vein or in the grade of the ore.

Under present conditions, government participation does not appear advisable, and therefore, it is recommended that the application be denied.

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

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
NO. IV

DMEA-727, Hellie Mly Copper Group

Lordsburg Mining District

Hidalgo County, New Mexico

John D. Veick, Geologist
U. S. Geological Survey

Geo. A. Kunke, Mining Engineer
U. S. Bureau of Mines

January 1953

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By John L. Faick[1] and Chas. A. Kunke[2]

It was requested in October 1952, by the Operating Committee, Defense Minerals Exploration Administration, that the Field Team, Region IV, examine the Nellie Ely group in Hidalgo County, N. Mex. Applicant C. W. Forzman of Lordsburg, N. Mex. was asking for assistance in exploring his property, a copper prospect. The presence of cobalt also was mentioned in the application. The property is situated 6.5 miles south of Lordsburg, N. Mex.

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Under present conditions, government participation does not appear advisable, and therefore, it is recommended that the application be denied.

NELLY BLY GROUP
CARL W. HORZMANN, APPLICANT
HIDALGO COUNTY, NEW MEXICO
(COPPER-COBALT)

DMEA 2727

Geology

By
John N. Faick
Geologist, U. S. Geological Survey

NELLY BLY GROUP
CARL W. HORZMANN, APPLICANT
HIDALGO COUNTY, NEW MEXICO
(COPPER-COBALT)

DMEA 2727

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Fig. 1 Location Map	See Engineering Report
Fig. 2 Claim and Sample Map	" " "
Fig. 3 Plan and Section of the Nelly Bly Mine	" " "

INTRODUCTION

An application for Government aid in exploring the Nelly Bly mine, about 6 miles south of Lordsburg, New Mexico, has been received by the Defense Minerals Exploration Administration, and docketed as DMEA 2727. The application was submitted by Carl W. Horzmann, for assistance in exploring the Nelly Bly group of claims, which were formerly mined to a small extent for silver and copper ores.

The Nelly Bly mine was examined December 3, 1952 by C. A. Kumke and Robert Ageton, Engineers, U. S. Bureau of Mines and J. N. Faick, Geologist, U. S. Geological Survey.

GENERAL GEOLOGY

The general geology and the mineral deposits of the Lordsburg, or Virginia, mining district, have been described by Lasky[1/], who includes a description of the Leitendorf or Pyramid camp at the south end of the district. The Nelly Bly mine is in the Leitendorf camp located (Fig. 1) about 6 miles south of Lordsburg, New Mexico and the mine is only about 500 feet east of the county road to Animas.

The Pyramid area is underlain mostly by basalt, but the Leitendorf hills, located about 1 mile south of the Nelly Bly mine, are composed of other volcanic rocks. At the Nelly Bly mine a quartz latite dike crops out for about 1000 feet along the strike of the vein.

In the Pyramid district there are several veins and these trend eastward or northeastward and may be vertical or dip steeply. These veins contain a high content of quartz, subordinate amounts of calcite and siderite, and minor amounts of chalcopyrite and galena. The veins

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1/ Lasky, S. G., Geology and Ore Deposits of the Lordsburg Mining District, Hidalgo County, New Mexico: U. S. Geological Survey Bulletin 885, pp. 9-42, 1938.

are noted for relative high silver content and in the past have been exploited mostly for this element. Most of the ore was desirable smelter flux and was shipped for this purpose; however, several attempts have been made to concentrate the ores at the mines, but apparently only a few of the attempts have been successful.

NELLY BLY MINE

The Nelly Bly property for which exploration is proposed consists of 5 patented claims and one unpatented claim (Fig. 2). The claims are underlain with basalt into which is intruded a large quartz latite dike (Fig. 3). Several small veins cut the basalt or the latite dike, the largest being the main Nelly Bly vein, with which is associated one or more contiguous veins in the same zone. This vein zone is poorly exposed at the surface due to the presence of residual debris, but the vein zone can be traced for about 1500 feet by means of prospect pits, trenches, and open stopes. The veins strike northeast and dip very steeply to the southeast, but in places are nearly vertical.

The only accessible workings on the Nelly Bly claim are some shallow cuts near the south end of it. In this area two parallel veins about 20 feet apart have been partly mined to depths ranging from 15 to 40 feet below the surface. The old stopes are open and partly accessible. They range in width from about 2 feet to about 8 feet wide and are from 20 to 50 feet long. The stopes are closely spaced along the veins, and many of them are interconnected. These veins were mined to shallow depths for a distance along the strike of 200 to 300 feet, and in places smaller branch or intersecting veins were mined.

The ore mined from these stopes consisted of oxidized copper ores containing relatively high values in silver, and it is believed the

ores were exploited principally for the silver. No primary ores were seen by this writer at the south end of the claim, either in the stopes or on the dumps, and it is doubtful if much primary ore was mined from this zone.

Near the north end of the Nelly Bly claim are a couple of small shallow shafts that were obviously dug in an unsuccessful effort to mine additional oxidized ore. About 200 feet south of these shafts is the main Nelly Bly shaft. This is about 400 feet deep and about 2000 feet of drifts were driven from it, but none of the workings (Fig. 3) are accessible. These workings are located on the northeasterly striking Nelly Bly vein, which in this area is not exposed at the surface, but is concealed by old mine dumps, and residual soils. Material on the dumps indicates that the ore consists of quartz and calcite with which is associated trace amounts of chalcopyrite and pyrite. The near-surface ores are oxidized.

It was reported[2/] that in 1905 one ore shoot 50 feet long and 5 feet wide had been found at a depth of 70 feet, and two smaller shoots were found on the 118 level. Available maps (Fig. 3) indicate that another small ore body was found on the 239 level. These were chalcopyrite ore.

The production of the Nelly Bly up to 1905 was said to be $20,000 in copper, silver, and gold. The ratio of silver to copper in this ore was about 1 ounce silver per unit of copper.

In 1909 and 1910, 98 cars of ore totaling 2636 tons were shipped that contained 5.46 percent copper, valued at about $18.00 per ton. The silver and gold content of these later shipments was too low to be paid for by the smelters. The total production is unknown, but is probably not much greater than that mentioned, which represents the production during the two periods of greatest activity.

2/ Graton, L. C., The Ore Deposits of New Mexico: U. S. Geol. Survey Prof. Paper 68, p. 334, 1910.

ORE RESERVES

It is impossible to estimate ore reserves at the Nelly Bly mine because most of the old mine workings are inaccessible, because there has been little exploration other than that incidental to actual mining, and because all the ore found by previous operations has been removed from the accessible workings.

The applicant claims, based on rumors that he has heard, there is considerable mineralized breccia containing 12 percent copper occurring as the mineral chalcopyrite in the main Nelly Bly workings. The examiners doubt the validity of the statement because there is no evidence in the accessible workings or in the old dumps that sulfide ore of this grade had been mined. Also it is noteworthy that available production records show substantially less copper in the ore produced than the applicant thinks remains in the mine.

It is quite possible that other very small ore shoots similar to those previously mined may remain undiscovered along the productive portion of the Nelly Bly vein or along its southward extension. Any ore shoots of this type that may be present would probably be small and would consist of oxidized ore. Exploration assistance for locating near-surface ore shoots has not been proposed by the applicant, and is too small an objective for DMEA participation.

PROPOSED EXPLORATION

The applicant has proposed exploration to consist of 3 parts as follows: (1) geophysical surveys, (2) trenching and bulldozing, (3) diamond drilling. The geophysical surveys are expected to localize the more favorable mineral zones, which were then to be trenched by bulldozing. The cost of these first two phases was estimated at $7,000 and was to be

followed by diamond drilling to cost $14,000. The proposed diamond drilling consisted of 10 holes of 200 feet each, and the applicant anticipates that all of the exploration activities will be conducted within a radius of 300 or 400 feet of the main Nelly Bly shaft.

This proposed exploration does not appear to this writer to be a worthwhile project for Government participation. Probably the small veins of quartz-carbonate gangue containing meager amounts of base metals would be exceedingly difficult to locate by geophysical methods, especially as the veins and the country rocks must have nearly equal densities, and the conductivities of the ore and rocks may not be greatly dissimilar. Although the geophysical methods to be used are not specified by the applicant, it is doubtful if any method would be successful in obtaining results that could not be obtained more cheaply by some other method, as for example by surface trenching and test pitting.

The proposed diamond drill program is poorly conceived because it is intended to explore the same block of ground as was previously developed by the Nelly Bly shaft and underground workings. It was anticipated, however, that the proposed drilling would be revised if geophysical results so indicated, and revision would undoubtedly be necessary because the proposed holes are only 200 feet long, or about $\frac{1}{2}$ the depth of the mine workings.

The shoots of ore previously mined are very small, usually ranging from 2 to 6 feet wide and from 30 to 50 feet long, and these extend to unknown but probably shallow depths. These ore bodies are so small that they do not contain significant or worthwhile amounts of ore.

The application included cobalt as one of the elements to be explored, therefore the examiners were especially careful to watch for evidence of this element. No cobalt minerals were found by the examiners,

and upon direct questioning, the applicant said he knew of none, and did not believe the property had ever been sampled and tested for cobalt. Seven samples of ore and waste were taken by the examiners and spectrographic analysis of these failed to reveal cobalt, therefore it is concluded that none is present in the deposits.

The samples taken by the examiners represented ore selected from old waste piles, wall rocks along two of the veins, and oxidized vein material from a pillar in one of the near-surface stopes. The samples contained relatively small amounts of valuable metals, as shown by the assays given on Fig. 2. All the available evidence cited indicates that there is insufficient ore potential to justify exploration of the deposit.

CONCLUSIONS AND RECOMMENDATIONS

Relatively small oxidized ore shoots are localized along fault zones on the Nelly Bly property. Production amounted to about $20,000 in copper, silver, and gold prior to 1910. About 2636 tons of ore containing 5.41 percent copper valued at about $48,000 were produced during 1909 and 1910. Numerous small near-surface stopes, from which were mined the higher grade oxidized ores, indicate that the best parts of the mine are exhausted. Additional small ore bodies may exist, but it is doubtful if they could be any larger or higher grade than those mined in the past, therefore the productive potential is very small.

Because of the small size of the ore bodies there is little chance that worthwhile quantities of copper ore can be produced from the mine, therefore it is recommended that the application be denied. Sensitive tests fail to reveal the presence of cobalt, therefore exploration for this element cannot be justified.

DMEA-2727, NELLIE BLY COPPER GROUP
LORDSBURG MINING DISTRICT
HIDALGO COUNTY, NEW MEXICO

Engineering Report

By Chas. A. Kumke,
Mining Engineer
U. S. Bureau of Mines

January 1953

DMEA-2727, NELLIE BLY COPPER GROUP
LORDSBURG MINING DISTRICT
HIDALGO COUNTY, NEW MEXICO

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INTRODUCTION

Under date of October 13, 1952, the Operating Committee, Defense Minerals Exploration Administration, requested that the Field Team, Region IV, make an examination of the Nellie Bly Group (Copper and Cobalt), Hidalgo County, N. Mex. The applicant, C. W. Horzman, was requesting assistance from the Government to do exploration work estimated to cost $35,550.00. This exploration work called for a geophysical survey to be followed by some trenching and bulldozing and a considerable amount of core drilling. On December 3, 1952, Chas. A. Kumke[1/], R. W. Ageton[1/] and John N. Faick[2/] visited the property. They were met in Lordsburg by the owner of the property, Carl W. Horzman, who acted as guide at the mine.

The Nellie Bly group consists of six claims of which five are patented. The claims are contiguous. There are several open, partly accessible surface stopes, and a number of inaccessible shafts on the property, as well as numerous shallow open-cuts. Because of the proximity of a well traveled county road, and the absence of a caretaker, the property has been completely stripped of all mining equipment, buildings, tools, supplies, lumber, etc. Every piece of timber has been taken from every shaft collar, and the open holes, only a few hundred feet from the road and less than seven miles from the city of Lordsburg, present a serious hazard to casual visitors, and adventurous and inquisitive children.

All accessible workings were visited and a number of samples were taken by the DMEA examiners.

1/ Mining Engineer, U. S. Bureau of Mines
2/ Geologist, U. S. Geological Survey

ACKNOWLEDGMENTS

Acknowledgment is made to Carl W. Horzman, applicant and owner of this property. He was very cooperative and expressed his regret that the underground workings all were inaccessible.

LOCATION AND ACCESSIBILITY

The Nellie Bly group of claims is situated six miles south of Lordsburg, N. Mex. in the Lordsburg mining district of Hidalgo County, in Secs. 1 and 2, T. 24 S., R. 19 W. (figure 1).

Lordsburg is the nearest town or city. The property is reached by driving six miles south on a well-kept county road, known as the Animas road. Thence east (left) for three or four hundred yards to the mine.

PHYSICAL FEATURES AND CLIMATE

Like most of the southwest, this region has a semi-arid climate. The area is stripped of grass and feed due to years of over-grazing, and is only sparsely covered with the usual semi-desert vegetation. Temperatures above 100 degrees are common during the summer months, but the summer nights usually are comfortably cool. The yearly average temperature is about 60 degrees and the average annual rainfall is slightly under ten inches. Nearly half of this rain falls in July and August in heavy thunderstorms of short duration.

There are no streams or springs. Mine water is encountered at about 100 feet below the surface. The amount of flow is estimated at slightly over 100 gallons per minute. The mine water is highly mineralized. Water for domestic use must be hauled from Lordsburg.

The mine is at an altitude of 4,200 feet above sea level.

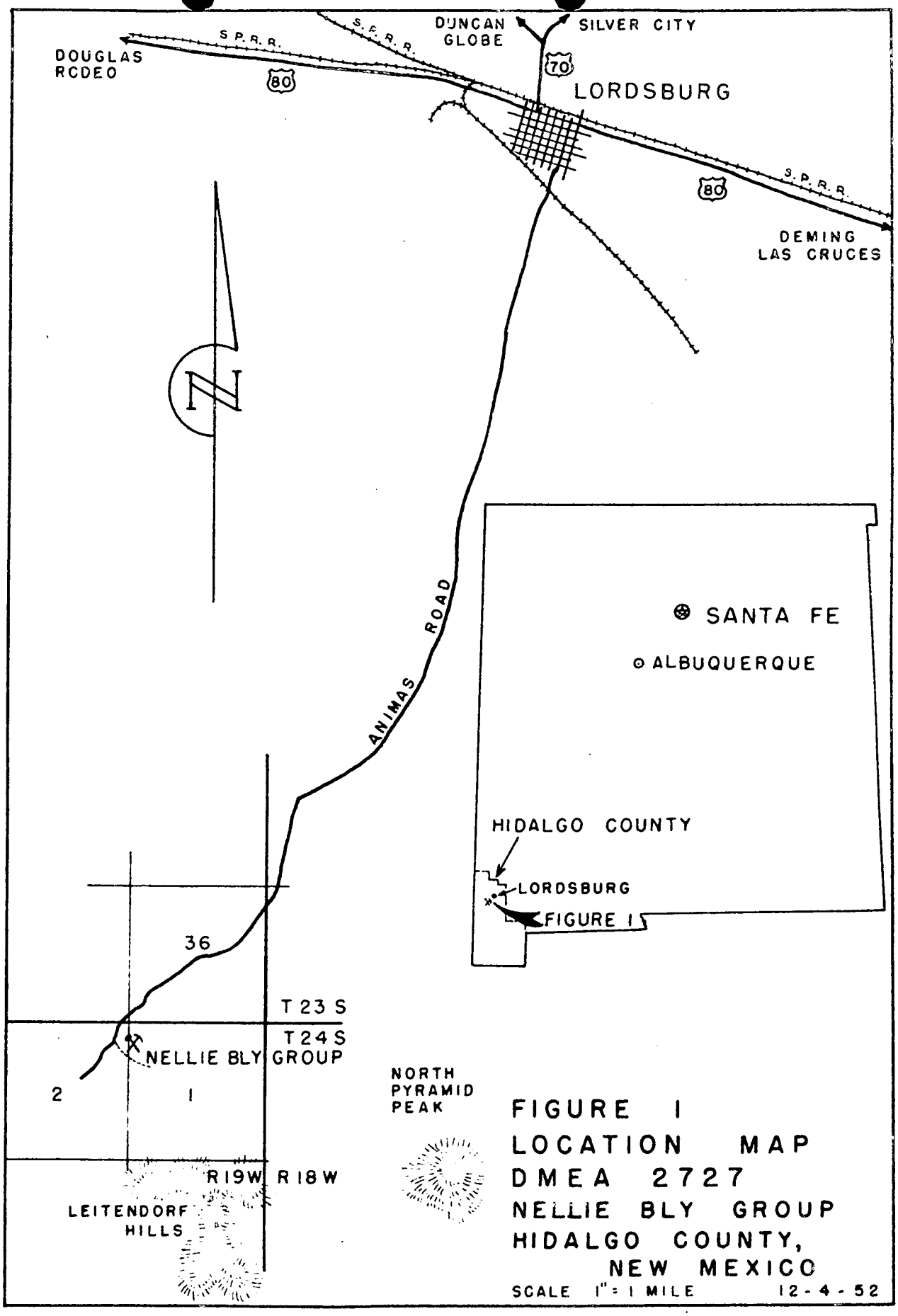


FIGURE 1
LOCATION MAP
DMEA 2727
NELLIE BLY GROUP
HIDALGO COUNTY,
NEW MEXICO

SCALE 1" = 1 MILE 12-4-52

HISTORY AND PRODUCTION

It is believed that the high-grade outcrops on this property were known to prospectors as far back as 1873 and that some work was being done in the district at that time. A little later a portion of the area was salted with diamonds and a rush occurred that suddenly increased the population of the camp to over 3,000 people. This excitement soon subsided but the high-grade silver ores that were being mined kept the camp active. When the Southern Pacific Railroad reached Lordsburg in 1880 the activity increased. The demonitization of silver in 1893 caused the price of silver to drop sharply and most of the mines ceased all operations. It was known that the copper content of the ores increased as the silver values rose. When in 1899 the price of copper advanced, the mines were reopened but the excitement again died down about 1905.

It must be remembered that about 90 percent of the production from the Lordsburg district came from the Eighty-five mine. The ores from this mine were in demand as a siliceous flux by the Calumet & Arizona Mining Co. When the Phelps-Dodge Corp. took over the Calumet & Arizona holdings, there was no longer a demand for the ores from the Eighty-five mine. A severe drop in the price of copper soon followed in 1932, and the Eighty-five mine was shut down. Pumps were pulled and the entire district soon was deserted.

During all these years, the Nellie Bly mine in the Leitendorf Camp or Pyramid district, some four miles farther south, had about

the same cycles of activity. There the silver values predominated. However, when copper prices rose the Nellie Bly mine apparently became more active because the copper values were persistently higher in the higher grade silver ores. Up to 1905 the Nellie Bly mine is said to have produced $20,000.00 in copper, silver, and gold.

During 1909 and 1910, two of the most productive years of this mine, ores valued at $43,000.00 in copper, silver, and gold were shipped. The copper values in those ores averaged a little over 5 percent. The tonnage amounted to approximately 2,500 tons.

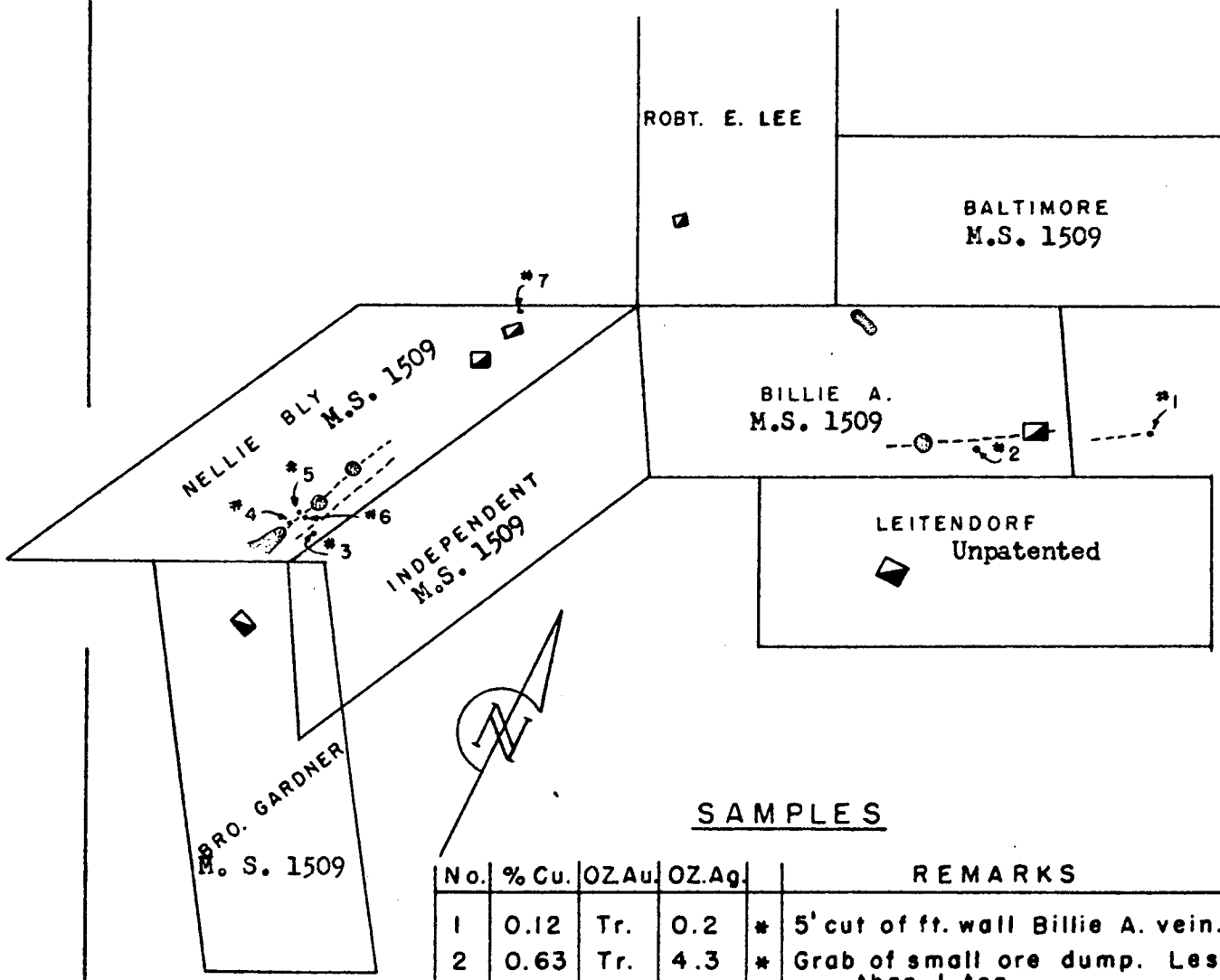
Carl W. Horzman, the applicant, has contracted to purchase the Nellie Bly Group from the Susquenhana Mining Co., Belfonte, Pa. The purchase price is $25,000.00, payable at the rate of $5,000.00 per year, based on 10 percent of the net smelter returns.

There are five patented claims and one unpatented claim in the group (figure 2). They are:

Nellie Bly	U. S. Pat. Survey No. 1509
Brother Gardner	" " " " " "
Baltimore	" " " " " "
Independence	" " " " " "
Billie A.	" " " " " "
Leitendorf	Unpatented.

DESCRIPTION OF DEPOSIT

In the Pyramid district, the mineral outcrops are rather inconspicuous and the veins are narrow, ranging in width from a few inches to three or more feet. The veins are fissure veins cutting



SAMPLES

No.	% Cu.	OZ.Au.	OZ.Ag.		REMARKS
1	0.12	Tr.	0.2	*	5' cut of ft. wall Billie A. vein.
2	0.63	Tr.	4.3	*	Grab of small ore dump. Less than 1 ton.
3	5.25	Tr.	21.8	*	Grab of small pile of ore. Less than 500 lbs.
4	0.15	Tr.	0.3	*	2.5' cut across vein - pillar near surface.
5	0.22	0.04	0.15	*	12.5' cut of west wall Nellie Bly vein.
6	0.12	Tr.	0.10	*	12.5' cut of east wall Nellie Bly vein.
7	5.28	0.22	3.4	*	Grab of small ore pile 2 or 3 ton.

* Negative result in spectroscopic test for cobalt.

Fig. 2 CLAIM and SAMPLE MAP

DMEA 2727

NELLIE BLY GROUP
Lordsburg Mining District
Hidalgo County, New Mexico.

Scale: 1" = 600' Dec. 5, 1952

andesite and granodiorite. These veins are almost vertical. The two main veins are on the Nellie Bly and Billie A. claims. These veins strike northeasterly and southwesterly. However, toward the southern end of the property some veins strike almost east and west.

In the Nellie Bly and Billie A. veins the silver values were considerably higher than in most of the veins of the remaining Lordsburg district. These higher values no doubt were due to enrichment. They occurred usually as narrow pay streaks in the vein itself. As a result much of the ore shipped was sorted, or at least partially sorted. The dumps show the presence of considerable calcite associated with quartz and chalcopyrite.

There are several shafts. None are accessible. The deepest is said to measure 400 feet. It now is filled with water to within 100 feet of the surface.

ORE RESERVES

No reasonably accurate estimate can be made of ore reserves. The underground mine workings are inaccessible and in the surface stopes the ore was taken out as it was found. Evidently no drifts were run in advance or ahead of the stoping. Figure 3 is the only available drawing of underground workings. No attempt was made to outline ore reserves and no assays are shown.

During 1909 and 1910, two of the most productive years of this property, 2,500 tons of ore (98 cars) were shipped assaying approximately 5 percent copper. This amounts to a 25-ton car a week. There are no assay maps available and the surface workings have been so

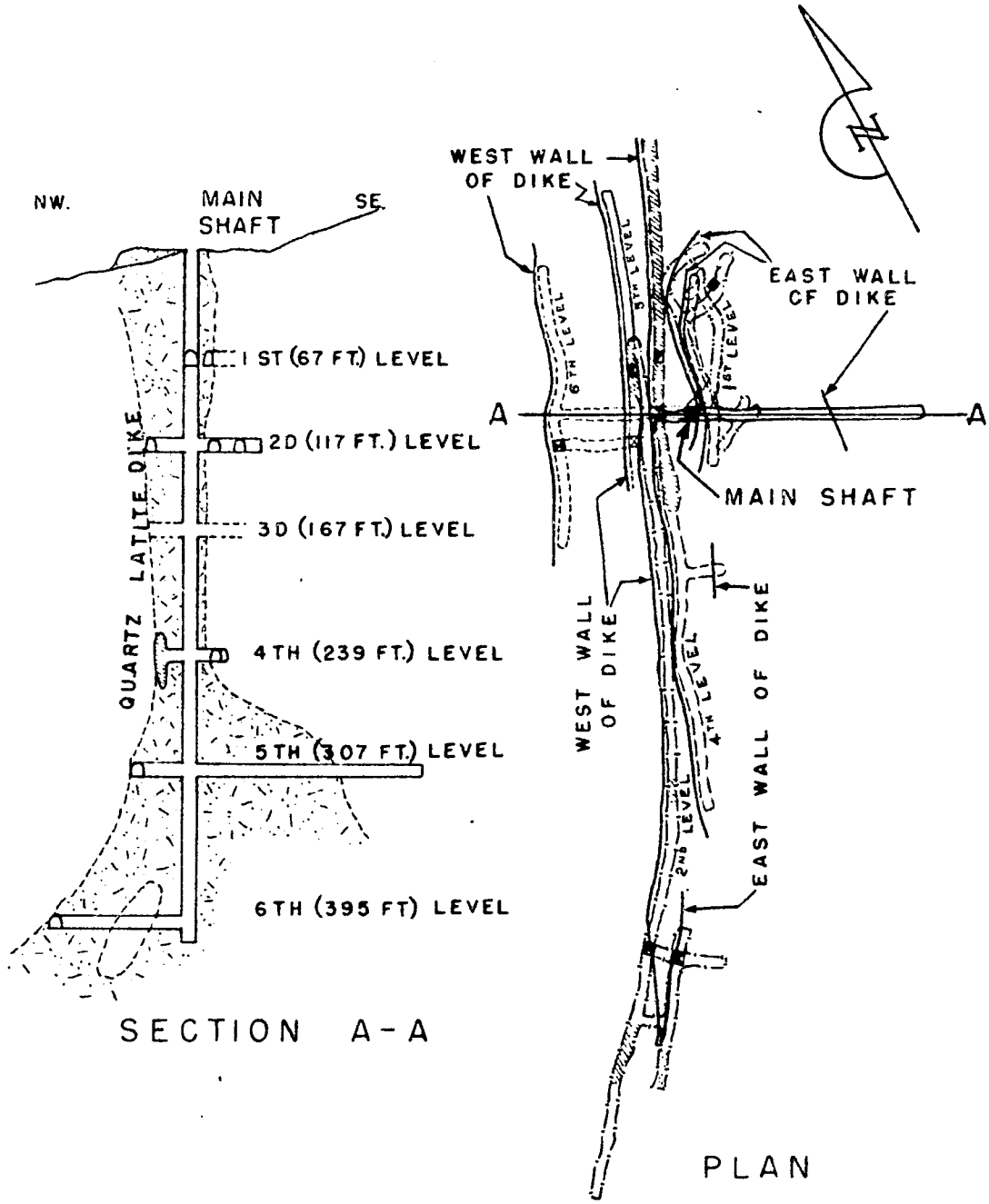


FIGURE 3 DMEA 2727

PLAN & SECTION OF THE NELLIE BLY MINE

FROM U.S.G.S. BULLETIN 885 BY SAMUEL G. LASKY

(COPIED FROM AN OLD MAP, AUTHOR UNKNOWN)

LORDSBURG MINING DISTRICT

HIDALGO COUNTY NEW MEXICO

SCALE 1" = 100 FT. DEC. 5, 1952

stripped of ore that no suitable samples across the vein could be taken. However, seven samples were obtained. Their locations and assays are shown in figure 2.

The application states that in addition to copper, cobalt also is present. The examining engineers were unable to detect the presence of cobalt in any of the surface workings. Visual spectroscopic tests were made by the Metallurgical Division of the Bureau of Mines on each of the seven samples taken. No cobalt was detected in any of these samples, (figure 2).

During the examination, Horzman was questioned as to his knowledge of the presence of cobalt in the Nellie Bly ores. He stated that he at no time suspected the presence of this mineral and that he had had no cobalt assays made on any Nellie Bly samples.

PRESENT STATUS AND PROPOSED EXPLORATION

After 20 years of idleness without a caretaker, this property, situated only six miles from the city of Lordsburg and only a few hundred feet from a highway, has been completely stripped of everything of even the slightest value. To rehabilitate the mine so that exploration work could be undertaken on the 400 level would cost about $28,000.00. However, the applicant proposes that the loan of $35,550.00 be expended in two phases.

The first phase ($7,000.00) calls for a geophysical survey of a circular area covering the vein structure just south of the main shaft of the Nellie Bly claim. This work is to be contracted by F. W. Lee

and associates for $5,000.00. In addition, the first phase calls for $1,000.00 consulting fees for J. E. Bacon at $50.00 per day plus expenses. A nominal amount of trenching and bulldozing also is mentioned in this first phase.

In the second phase, $28,550.00 is to be spent. There are four major items as follows:

(1) $12,000.00 for ten 200-foot diamond drill holes, to be drilled in the area included in the geophysical survey;

(2) $12,600.00 for 3 diamond drill holes, 700 feet each, cutting the main vein at a depth of 400 feet;

(3) $1,500.00 for supervision;

(4) $1,000.00 for consulting fees to J. E. Bacon.

It was contemplated that the consultant, Jas. E. Bacon, would meet at the mine with the applicant, the drilling contractor, and the Bureau engineers to select locations for each drill hole. It is not entirely clear if the consultant's trip expenses are to be paid out of the loan money.

The Joy Manufacturing Co. has submitted the following prices for the proposed core drilling program:

	Hole size	
	BX	AX
From 0 to 350 feet	$ 6.00 ft.	$ 5.25 ft.
From 350 to 700 feet	6.50 ft.	5.75 ft.
<u>Drilling in excess of 1,500 feet.</u>		
From 0 to 350 feet	$ 5.25 ft.	$ 4.50 ft.
From 350 to 700 feet	5.75 ft.	5.00 ft.

The drilling contract would be subject to the usual clauses governing water, caving, reaming, casing, cementing, etc.

CONCLUSIONS

Upon studying the production record of the Lordsburg mining district it becomes evident that the main incentive to mining was the necessity of obtaining siliceous ores as a flux for nearby smelters. In the early years, the high-grade silver ores aroused the most interest, particularly in the Leitendorf camp where the Nellie Bly mine is situated. The demonitization of silver in 1893 caused a sharp drop in the price of this metal and the mines like the Nellie Bly were forced to shut down. However, the Nellie Bly ores had this characteristic: The copper values increased as the silver content rose. As a result, whenever copper pricesadvanced sufficiently, someone would resume work in the Nellie Bly workings. During one such revival, the mine operated for two years, but its best showing during these two years, from a tonnage basis, amounted to less than 30 tons per week (average). Mining costs per ton would be high, probably well over $10.00 per ton.

According to the applicant, no one has attempted to rehabilitate the mine workingssince 1931. In the assay results shown in figure 2, it can be seen that samples 1, 5, and 6 were taken in the wall-rock of the veins. These samples were to determine whether or not the vein values continued into the wall-rock. Evidently there was very little penetration where these three samples were taken. These results and the nature of the ore occurrence would indicate that no appreciable tonnage of economic copper ore would be found in the area adjacent

to the veins and at the depths designated in the proposal. Size of tonnage would most likely be limited to the capacity of the vein structure.

The copper values occur chiefly in the pay-streak with the high-grade silver. The copper production in this type of ore would not be impressive. It is to be regretted that the various mine shafts were inaccessible and that there were no exposed faces where good representative samples could be taken. In addition, there were no authentic mine assay maps available. Under those conditions Government participation cannot be deemed desirable.

RECOMMENDATIONS

It is recommended that the application be denied.

KELLY ELY GROUP
CARL W. HOEHMANN, APPLICANT
HIDALGO COUNTY, NEW MEXICO
(COPPER-COBALT)

DMRA 2727

Geology

By
John H. Faick
Geologist, U. S. Geological Survey

HELLY BLY GROUP
CARL W. MORZNARE, APPLICANT
HIDALGO COUNTY, NEW MEXICO
(COPPER-COBALT)

IMEA 2787

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General Geology	1
Helly Bly Mine	2
Ore Reserves	4
Proposed Exploration	4
Conclusions and Recommendations	6

ILLUSTRATIONS

Fig. 1 Location Map — See Engineering Report

Fig. 2 Claim and Sample Map

Fig. 3 Plan and Section of the Helly Bly Mine

INTRODUCTION

An application for Government aid in exploring the Nelly Bly mine, about 6 miles south of Lordsburg, New Mexico, has been received by the Defense Minerals Exploration Administration, and docketed as DMEA 2727. The application was submitted by Carl W. Horsmann, for assistance in exploring the Nelly Bly group of claims, which were formerly mined to a small extent for silver and copper ores.

The Nelly Bly mine was examined December 3, 1952 by C. A. Kunke and Robert Agston, Engineers, U. S. Bureau of Mines and J. N. Faick, Geologist, U. S. Geological Survey.

GENERAL GEOLOGY

The general geology and the mineral deposits of the Lordsburg, or Virginia, mining district, have been described by Lasky[1/], who includes a description of the Leitendorf or Pyramid camp at the south end of the district. The Nelly Bly mine is in the Leitendorf camp located (Fig. 1) about 6 miles south of Lordsburg, New Mexico and the mine is only about 500 feet east of the county road to Animas.

The Pyramid area is underlain mostly by basalt, but the Leitendorf hills, located about 1 mile south of the Nelly Bly mine, are composed of other volcanic rocks. At the Nelly Bly mine a quartz latite dike crops out for about 1000 feet along the strike of the vein.

In the Pyramid district there are several veins and these trend eastward or northeastward and may be vertical or dip steeply. These veins contain a high content of quartz, subordinate amounts of calcite and siderite, and minor amounts of chalcopyrite and galena. The veins

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1/ Lasky, S. G., Geology and Ore Deposits of the Lordsburg Mining District, Hidalgo County, New Mexico: U. S. Geological Survey Bulletin 885, pp. 9-42, 1938.

are noted for relative high silver content and in the past have been exploited mostly for this element. Most of the ore was desirable smelter flux and was shipped for this purpose; however, several attempts have been made to concentrate the ores at the mines, but apparently only a few of the attempts have been successful.

NELLY ELY MINE

The Nelly Ely property for which exploration is proposed consists of 5 patented claims and one unpatented claim (Fig. 2). The claims are underlain with basalt into which is intruded a large quartz latite dike (Fig. 3). Several small veins cut the basalt or the latite dike, the largest being the main Nelly Ely vein, with which is associated one or more contiguous veins in the same zone. This vein zone is poorly exposed at the surface due to the presence of residual debris, but the vein zone can be traced for about 1500 feet by means of prospect pits, trenches, and open stopes. The veins strike northeast and dip very steeply to the southeast, but in places are nearly vertical.

The only accessible workings on the Nelly Ely claim are some shallow cuts near the south end of it. In this area two parallel veins about 20 feet apart have been partly mined to depths ranging from 15 to 40 feet below the surface. The old stopes are open and partly accessible. They range in width from about 2 feet to about 8 feet wide and are from 20 to 50 feet long. The stopes are closely spaced along the veins, and many of them are interconnected. These veins were mined to shallow depths for a distance along the strike of 200 to 300 feet, and in places smaller branch or intersecting veins were mined.

The ore mined from these stopes consisted of oxidized copper ores containing relatively high values in silver, and it is believed the

by this writer at the south end of the claim, either in the stopes or on the dumps, and it is doubtful if much primary ore was mined from this zone.

Near the north end of the Nelly Bly claim are a couple of small shallow shafts that were obviously dug in an unsuccessful effort to mine additional oxidized ore. About 200 feet south of these shafts is the main Nelly Bly shaft. This is about 400 feet deep and about 2000 feet of drifts were driven from it, but none of the workings (Fig. 3) are accessible. These workings are located on the northeasterly striking Nelly Bly vein, which in this area is not exposed at the surface, but is concealed by old mine dumps, and residual soils. Material on the dumps indicates that the ore consists of quartz and calcite with which is associated trace amounts of chalcopyrite and pyrite. The near-surface ores are oxidized.

It was reported[2/] that in 1905 one ore shoot 50 feet long and 5 feet wide had been found at a depth of 70 feet, and two smaller shoots were found on the 118 level. Available maps (Fig. 3) indicate that another small ore body was found on the 239 level. These were chalcopyrite ore.

The production of the Nelly Bly up to 1905 was said to be $20,000 in copper, silver, and gold. The ratio of silver to copper in this ore was about 1 ounce silver per unit of copper.

In 1909 and 1910, 98 cars of ore totaling 2636 tons were shipped that contained 5.46 percent copper, valued at about $18.00 per ton. The silver and gold content of these later shipments was too low to be paid for by the smelters. The total production is unknown, but is probably not much greater than that mentioned, which represents the production during the two periods of greatest activity.

2/ Graton, L. C., The Ore Deposits of New Mexico: U. S. Geol. Survey Prof. Paper 68, p. 334, 1910.

ORE RESERVES

It is impossible to estimate ore reserves at the Nelly Ely mine because most of the old mine workings are inaccessible, because there has been little exploration other than that incidental to actual mining, and because all the ore found by previous operations has been removed from the accessible workings.

The applicant claims, based on rumors that he has heard, there is considerable mineralized breccia containing 12 percent copper occurring as the mineral chalcopyrite in the main Nelly Ely workings. The examiners doubt the validity of the statement because there is no evidence in the accessible workings or in the old dumps that sulfide ore of this grade had been mined. Also it is noteworthy that available production records show substantially less copper in the ore produced than the applicant thinks remains in the mine.

It is quite possible that other very small ore shoots similar to those previously mined may remain undiscovered along the productive portion of the Nelly Ely vein or along its southward extension. Any ore shoots of this type that may be present would probably be small and would consist of oxidized ore. Exploration assistance for locating near-surface ore shoots has not been proposed by the applicant, and is too small an objective for DMEA participation.

PROPOSED EXPLORATION

The applicant has proposed exploration to consist of 3 parts as follows: (1) geophysical surveys, (2) trenching and bulldozing, (3) diamond drilling. The geophysical surveys are expected to localize the more favorable mineral zones, which were then to be trenched by bulldozing. The cost of these first two phases was estimated at $7,000 and was to be

followed by diamond drilling to cost $14,000. The proposed diamond drilling consisted of 10 holes of 200 feet each, and the applicant anticipates that all of the exploration activities will be conducted within a radius of 300 or 400 feet of the main Nelly Bly shaft.

This proposed exploration does not appear to this writer to be a worthwhile project for Government participation. Probably the small veins of quartz-carbonate gangue containing meager amounts of base metals would be exceedingly difficult to locate by geophysical methods, especially as the veins and the country rocks must have nearly equal densities, and the conductivities of the ore and rocks may not be greatly dissimilar. Although the geophysical methods to be used are not specified by the applicant, it is doubtful if any method would be successful in obtaining results that could not be obtained more cheaply by some other method, as for example by surface trenching and test pitting.

The proposed diamond drill program is poorly conceived because it is intended to explore the same block of ground as was previously developed by the Nelly Bly shaft and underground workings. It was anticipated, however, that the proposed drilling would be revised if geophysical results so indicated, and revision would undoubtedly be necessary because the proposed holes are only 200 feet long, or about ½ the depth of the mine workings.

The shoots of ore previously mined are very small, usually ranging from 2 to 6 feet wide and from 30 to 50 feet long, and these extend to unknown but probably shallow depths. These ore bodies are so small that they do not contain significant or worthwhile amounts of ore.

The application included cobalt as one of the elements to be explored, therefore the examiners were especially careful to watch for evidence of this element. No cobalt minerals were found by the examiners,

and upon direct questioning, the applicant said he knew of none, and did not believe the property had ever been sampled and tested for cobalt. Seven samples of ore and waste were taken by the examiners and spectrographic analysis of these failed to reveal cobalt, therefore it is concluded that none is present in the deposits.

The samples taken by the examiners represented ore selected from old waste piles, wall rocks along two of the veins, and oxidized vein material from a pillar in one of the near-surface stopes. The samples contained relatively small amounts of valuable metals, as shown by the assays given on Fig. 2. All the available evidence cited indicates that there is insufficient ore potential to justify exploration of the deposit.

CONCLUSIONS AND RECOMMENDATIONS

Relatively small oxidized ore shoots are localized along fault zones on the Nelly Ely property. Production amounted to about $20,000 in copper, silver, and gold prior to 1910. About 2636 tons of ore containing 5.41 percent copper valued at about $48,000 were produced during 1909 and 1910. Numerous small near-surface stopes, from which were mined the higher grade oxidized ores, indicate that the best parts of the mine are exhausted. Additional small ore bodies may exist, but it is doubtful if they could be any larger or higher grade than those mined in the past, therefore the productive potential is very small.

Because of the small size of the ore bodies there is little chance that worthwhile quantities of copper ore can be produced from the mine, therefore it is recommended that the application be denied. Sensitive tests fail to reveal the presence of cobalt, therefore exploration for this element cannot be justified.

DMA-2727, NELLIE LEY COPPER GROUP
LORDSBURG MINING DISTRICT
HIDALGO COUNTY, NEW MEXICO

Engineering Report

By Chas. A. Runke,
Mining Engineer
U. S. Bureau of Mines

January 1953

MEM-2727, MELLIE DAY COPPER GROUP
MORMON MINING DISTRICT
MINERAL COUNTY, MONTANA

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INTRODUCTION

Under date of October 13, 1952, the Operating Committee, Defense Minerals Exploration Administration, requested that the Field Team, Region IV, make an examination of the Lollie Ely Group (Copper and Cobalt), Hidalgo County, N. Mex. The applicant, C. W. Herzman, was requesting assistance from the Government to do exploration work estimated to cost $35,550.00. This exploration work called for a geophysical survey to be followed by some trenching and bulldozing and a considerable amount of core drilling. On December 3, 1952, Chas. A. Burke, 1/ R. W. Ageton 1/ and John D. Veich 2/ visited the property. They were met in Lordsburg by the owner of the property, Carl W. Herzman, who acted as guide at the mine.

The Lollie Ely group consists of six claims of which five are patented. The claims are contiguous. There are several open, partly accessible surface stopes, and a number of inaccessible shafts on the property, as well as numerous shallow open-cuts. Because of the proximity of a well traveled county road, and the absence of a caretaker, the property has been completely stripped of all mining equipment, buildings, tools, supplies, lumber, etc. Every piece of timber has been taken from every shaft collar, and the open holes, only a few hundred feet from the road and less than seven miles from the city of Lordsburg, present a serious hazard to casual visitors, and adventurous and inquisitive children.

All accessible workings were visited and a number of samples were taken by the DMEA examiners.

1/ Mining Engineer, U. S. Bureau of Mines
2/ Geologist, U. S. Geological Survey

ACKNOWLEDGMENTS

Acknowledgment is made to Carl W. Herzman, applicant and owner of this property. He was very cooperative and expressed his regret that the underground workings all were inaccessible.

LOCATION AND ACCESSIBILITY

The Nellie Bly group of claims is situated six miles south of Lordsburg, N. Mex. in the Lordsburg mining district of Hidalgo County, in Secs. 1 and 2, T. 24 S., R. 19 W. (figure 1).

Lordsburg is the nearest town or city. The property is reached by driving six miles south on a well-kept county road, known as the Animas road. Thence east (left) for three or four hundred yards to the mine.

PHYSICAL FEATURES AND CLIMATE

Like most of the southwest, this region has a semi-arid climate. The area is stripped of grass and feed due to years of over-grazing, and is only sparsely covered with the usual semi-desert vegetation. Temperatures above 100 degrees are common during the summer months, but the summer nights usually are comfortably cool. The yearly average temperature is about 60 degrees and the average annual rainfall is slightly under ten inches. Nearly half of this rain falls in July and August in heavy thunderstorms of short duration.

There are no streams or springs. Mine water is encountered at about 100 feet below the surface. The amount of flow is estimated at slightly over 100 gallons per minute. The mine water is highly mineralized. Water for domestic use must be hauled from Lordsburg.

The mine is at an altitude of 4,200 feet above sea level.

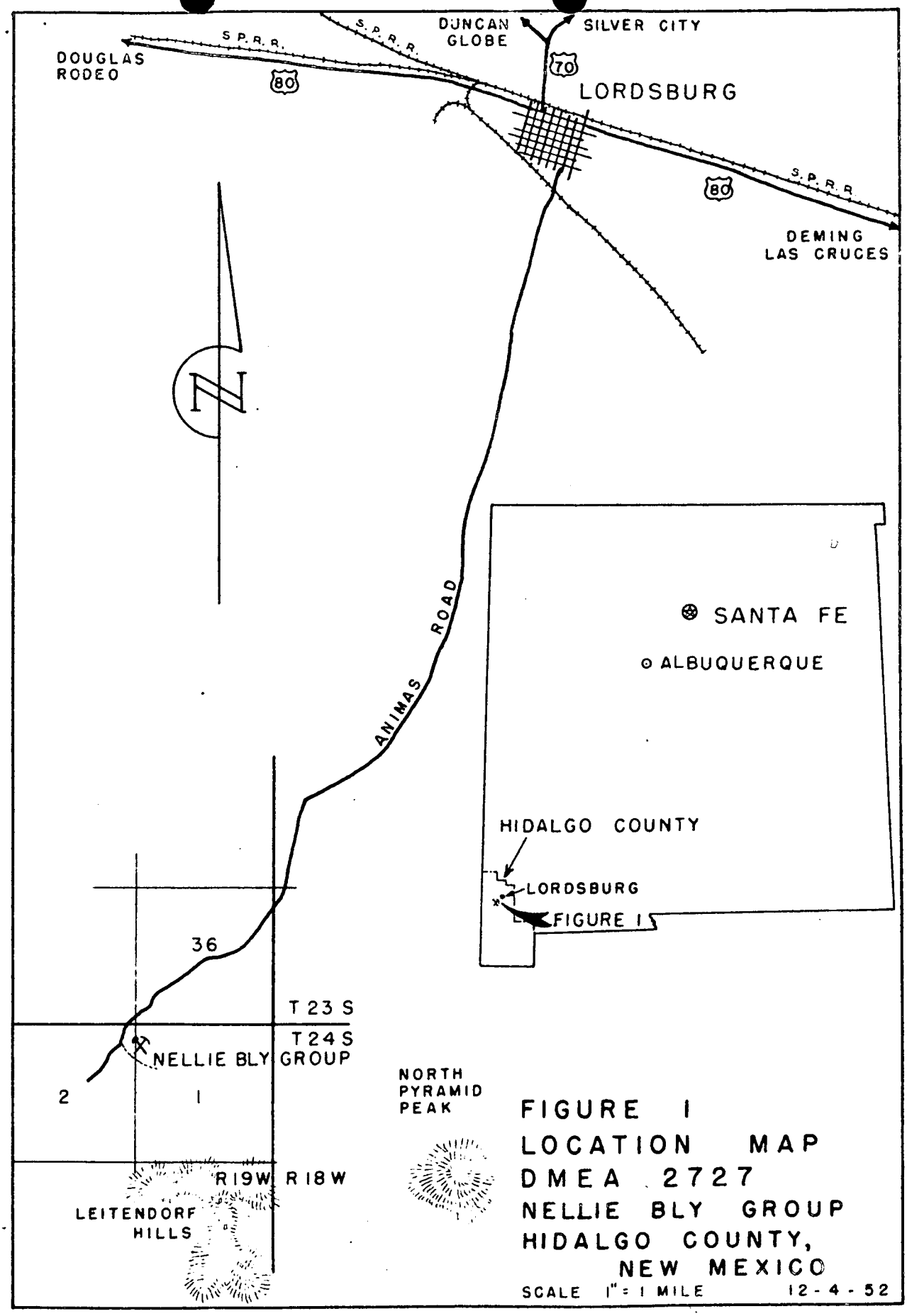

FIGURE 1
LOCATION MAP
DMEA 2727
NELLIE BLY GROUP
HIDALGO COUNTY,
NEW MEXICO
SCALE 1" = 1 MILE 12-4-52

HISTORY AND PRODUCTION

It is believed that the high-grade outcrops on this property were known to prospectors as far back as 1873 and that some work was being done in the district at that time. A little later a portion of the area was salted with diamonds and a rush occurred that suddenly increased the population of the camp to over 3,000 people. This excitement soon subsided but the high-grade silver ores that were being mined kept the camp active. When the Southern Pacific Railroad reached Lordsburg in 1880 the activity increased. The demonitization of silver in 1893 caused the price of silver to drop sharply and most of the mines ceased all operations. It was known that the copper content of the ores increased as the silver values rose. When in 1899 the price of copper advanced, the mines were reopened but the excitement again died down about 1909.

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Baltimore	" " " " " "
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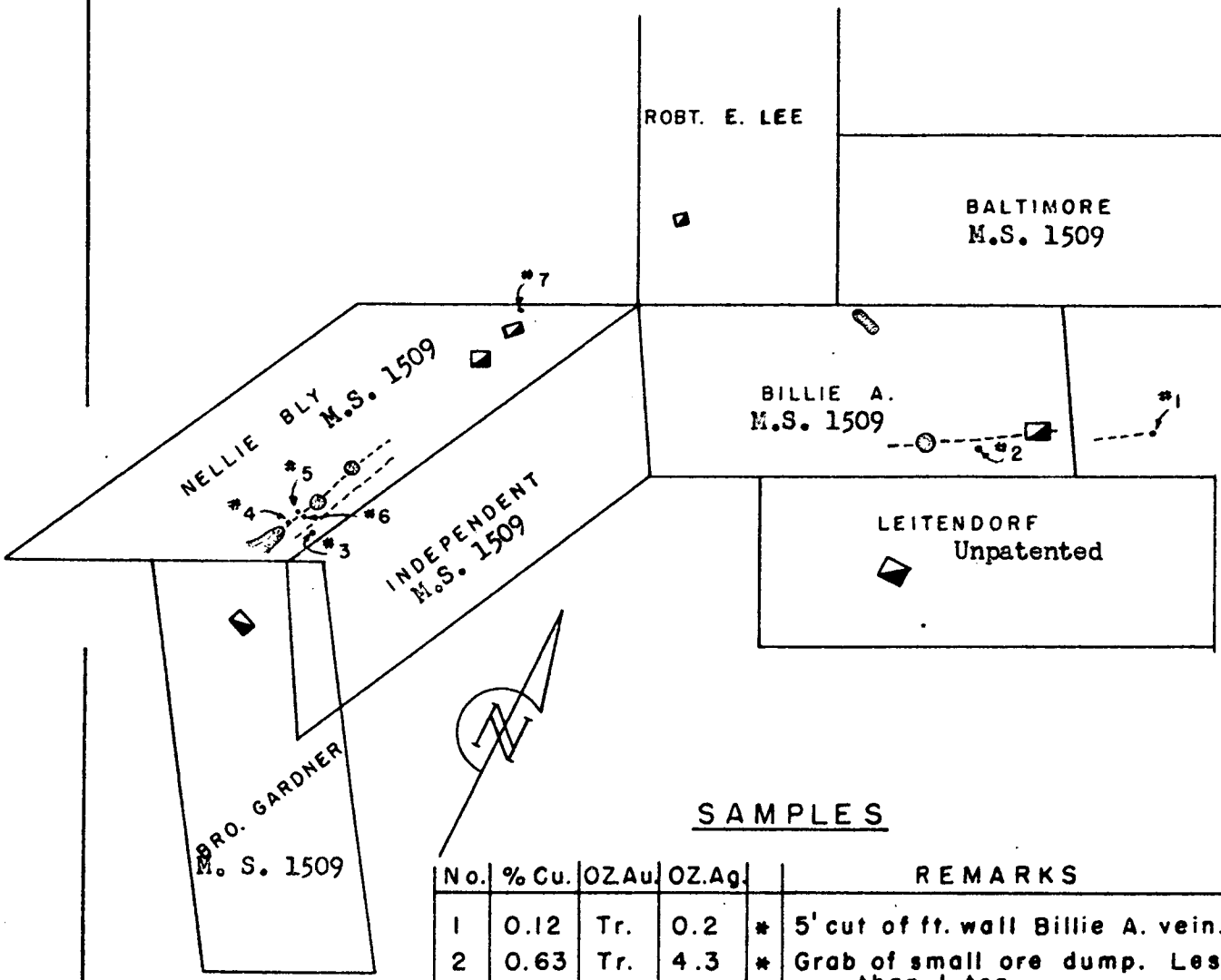

SAMPLES

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5	0.22	0.04	0.15	*	12.5' cut of west wall Nellie Bly vein.
6	0.12	Tr.	0.10	*	12.5' cut of east wall Nellie Bly vein.
7	5.28	0.22	3.4	*	Grab of small ore pile 2 or 3 ton.

* Negative result in spectroscopic test for cobalt.

Fig. 2 CLAIM and SAMPLE MAP

DMEA 2727

NELLIE BLY GROUP
Lordsburg Mining District
Hidalgo County, New Mexico.

Scale: 1" = 600' Dec. 5, 1952

andesite and granodiorite. These veins are almost vertical. The two main veins are on the Nellie Bly and Billie A. claims. These veins strike northeasterly and southwesterly. However, toward the southern end of the property some veins strike almost east and west.

In the Nellie Bly and Billie A. veins the silver values were considerably higher than in most of the veins of the remaining Lordsburg district. These higher values no doubt were due to enrichment. They occurred usually as narrow pay streaks in the vein itself. As a result much of the ore shipped was sorted, or at least partially sorted. The dumps show the presence of considerable calcite associated with quartz and chalcopyrite.

There are several shafts. None are accessible. The deepest is said to measure 400 feet. It now is filled with water to within 100 feet of the surface.

ORE RESERVES

No reasonably accurate estimate can be made of ore reserves. The underground mine workings are inaccessible and in the surface stopes the ore was taken out as it was found. Evidently no drifts were run in advance or ahead of the stoping. Figure 3 is the only available drawing of underground workings. No attempt was made to outline ore reserves and no assays are shown.

During 1909 and 1910, two of the most productive years of this property, 2,500 tons of ore (93 cars) were shipped assaying approximately 5 percent copper. This amounts to a 25-ton car a week. There are no assay maps available and the surface workings have been so

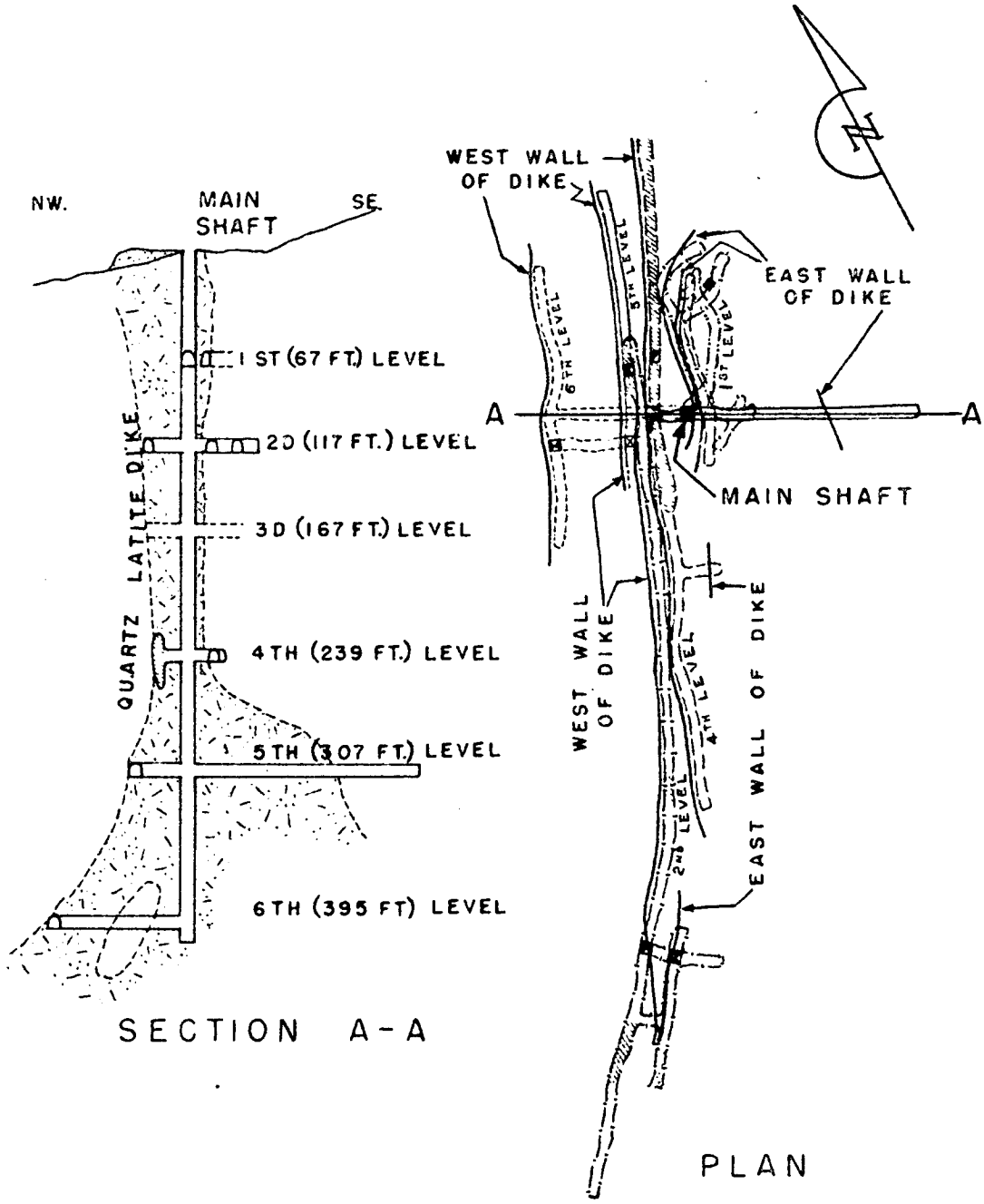


FIGURE 3 DMEA 2727

PLAN & SECTION OF THE NELLIE BLY MINE

FROM U.S.G.S. BULLETIN 885 BY SAMUEL G. LASKY

(COPIED FROM AN OLD MAP, AUTHOR UNKNOWN)

LORDSBURG MINING DISTRICT

HIDALGO COUNTY NEW MEXICO

SCALE 1" = 100 FT. DEC. 5, 1952

stripped of ore that no suitable samples across the vein could be taken. However, seven samples were obtained. Their locations and assays are shown in figure 2.

The application states that in addition to copper, cobalt also is present. The examining engineers were unable to detect the presence of cobalt in any of the surface workings. Visual spectroscopic tests were made by the Metallurgical Division of the Bureau of Mines on each of the seven samples taken. No cobalt was detected in any of these samples, (figure 2).

During the examination, Horzman was questioned as to his knowledge of the presence of cobalt in the Nellie Bly ores. He stated that he at no time suspected the presence of this mineral and that he had had no cobalt assays made on any Nellie Bly samples.

PRESENT STATUS AND PROPOSED REHABILITATION

After 20 years of idleness without a caretaker, this property, situated only six miles from the city of Lordsburg and only a few hundred feet from a highway, has been completely stripped of everything of even the slightest value. To rehabilitate the mine so that exploration work could be undertaken on the 400 level would cost about $23,000.00. However, the applicant proposes that the loan of $35,550.00 be expended in two phases.

The first phase ($7,000.00) calls for a geophysical survey of a circular area covering the vein structure just south of the main shaft of the Nellie Bly claim. This work is to be contracted by F. W. Lee

and associates for $5,000.00. In addition, the first phase calls for $1,000.00 consulting fees for J. E. Bacon at $50.00 per day plus expenses. A nominal amount of trenching and bulldozing also is mentioned in this first phase.

In the second phase, $23,550.00 is to be spent. There are four major items as follows:

(1) $12,000.00 for ten 200-foot diamond drill holes, to be drilled in the area included in the geophysical survey;

(2) $12,000.00 for 3 diamond drill holes, 700 feet each, cutting the main vein at a depth of 400 feet;

(3) $1,500.00 for supervision;

(4) $1,000.00 for consulting fees to J. E. Bacon.

It was contemplated that the consultant, Jas. E. Bacon, would meet at the mine with the applicant, the drilling contractor, and the Bureau engineers to select locations for each drill hole. It is not entirely clear if the consultant's trip expenses are to be paid out of the loan money.

The Joy Manufacturing Co. has submitted the following prices for the proposed core drilling program:

	Hole size	
	BK	AX
From 0 to 350 feet	$ 6.00 ft.	$ 5.25 ft.
From 350 to 700 feet	6.50 ft.	5.75 ft.
<u>Drilling in excess of 1,500 feet.</u>		
From 0 to 350 feet	$ 5.25 ft.	$ 4.50 ft.
From 350 to 700 feet	5.75 ft.	5.00 ft.

The drilling contract would be subject to the usual clauses governing water, caving, reaming, casing, cementing, etc.

CONCLUSION

Upon studying the production record of the Lordsburg mining district it becomes evident that the main incentive to mining was the necessity of obtaining siliceous ores as a flux for nearby smelters. In the early years, the high-grade silver ores aroused the most interest, particularly in the Leitendorf camp where the Nellie Bly mine is situated. The demonitization of silver in 1893 caused a sharp drop in the price of this metal and the mines like the Nellie Bly were forced to shut down. However, the Nellie Bly ores had this characteristic: The copper values increased as the silver content rose. As a result, whenever copper pricesadvanced sufficiently, someone would resume work in the Nellie Bly workings. During one such revival, the mine operated for two years, but its best showing during these two years, from a tonnage basis, amounted to less than 30 tons per week (average). Mining costs per ton would be high, probably well over $10.00 per ton.

According to the applicant, no one has attempted to rehabilitate the mine workingssince 1931. In the assay results shown in figure 2, it can be seen that samples 1, 5, and 6 were taken in the wall-rock of the veins. These samples were to determine whether or not the vein values continued into the wall-rock. Evidently there was very little penetration where these three samples were taken. These results and the nature of the ore occurrence would indicate that no appreciable tonnage of economic copper ore would be found in the area adjacent

to the veins and at the depths designated in the proposal. Size of tonnage would most likely be limited to the capacity of the vein structure.

The copper values occur chiefly in the pay-streak with the high-grade silver. The copper production in this type of ore would not be impressive. It is to be regretted that the various mine shafts were inaccessible and that there were no exposed faces where good representative samples could be taken. In addition, there were no authentic mine assay maps available. Under those conditions Government participation cannot be deemed desirable.

RECOMMENDATIONS

It is recommended that the application be denied.

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

224 New Customhouse
Denver 2, Colorado

January 5, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 8 1953

Mr. James E. Bacon
314 Kellogg Building
1416 F. Street, N. W.
Washington 4, D. C.

Re: Docket DMRA 2727

Dear Mr. Bacon:

This will acknowledge receipt of your letter dated December 18 requesting a report on the results of the field examination on the Nelly Ely Group.

We will advise Mr. Carl W. Horzmann, the applicant, regarding our recommendations when we receive the final report.

Very truly yours,

W. H. King

W. H. King
Executive Officer
Field Team, Region IV

HMC:oc

cc: COMittendorf
WRStorms
Subject
Chron.
Koschmann (2)

October 6, 1952

Subject: DMEA-2727
Re: Exploration Assistance
Nelly Bly Group and
Leitendorf #1 Claim

Mr. Carl W. Horzmann
P. O. Box 184
Lordsburg, New Mexico

My dear Mr. Horzmann:

The receipt of your application dated October 1, 1952 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-2727 and referred to Mr. W. H. King, Executive Officer, Region IV, Bureau of Mines, 224 New Customhouse Building, Denver 2, Colorado.

Kindly refer to DMEA-2727 in any future correspondence relating to your application.

Sincerely yours,

R. E. ADAMS

Robert E. Adams
Chief, Operation Control and
Statistics Division

Copy to: Region IV
James E. Bacon, 314 Kellogg Bldg., 1416 F St., N.W., Wash. 4, D.C.

JAMES E. BACON
TECHNICAL COUNSELOR

314 KELLOGG BUILDING
1416 F STREET, N.W.
WASHINGTON 4, D. C.
EXECUTIVE 3-6773

CABLE ADDRESS: JEBACON

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 3 1952

October 3, 1952

Defense Minerals Exploration Administration
United States Department of the Interior
Washington 25, D.C.

Attention: Mr. E.W. Ellis

Dear Sir:

I am attaching the application (in quadruplicate) of

C.W. Horzmann,
Lordsburg, New Mexico,

for aid in connection with an exploratory project involving six claims (patented), known as the NELLY BLY group, and the unpatented claim, listed as Leitendorf #1.

The applicant desires to divide the application into two phases, proceeding as follows:

Phase 1 will involve a geophysical survey and examination by Dr. F.W. Lee and his associate, Frank W. Farnham. A copy of their proposal is attached and is limited to a total cost of $5,000. From the surface indications and such data as has been accumulated, it is possible that the geophysical examination may develop a deposit pattern that will warrant some bulldozing or trenching to determine the possibility of open pit operations. Accordingly, the estimated cost of the first phase is $7,000.

Phase 2- If Phase 1 develops the possibility of open pit operations, it is proposed to explore the ore body by core drilling 10 holes to a maximum of 200' each. The cores will be analyzed to determine the feasibility of such operations. However, if, in the judgment of DMEA representatives and our office, such operations are not practical, then the funds will be employed on exploring the original ore bodies, by core drilling and analysis, or exploring the NELLY BLY shaft. Inasmuch as the plan and section digram (Plate 25, Bulletin 885) indicates a breadth below 239' and as deep as 400', it is believed that the coring should contemplate a possible maximum depth of 700', with a minimum of 400'.

The Joy Manufacturing Company has submitted the following prices for the proposed drilling program:

C.W. Horzmann Application
Sheet 2.

	BX	AX
From 0 to 350 ft. @	$6.00 ft.	$5.25 ft.
From 350 to 700 ft. @	$6.50 ft.	$5.75 ft.

DRILLING IN EXCESS 1500 ft.

From 0 to 350 ft. @	$5.25 ft.	$4.50 ft.
From 350 to 700 ft. @	$5.75 ft.	$5.00 ft.

The drilling contract will be subject to the usual clauses governing water, caving, reaming, casing, cementing etc.

Mr. C.W. Horzmann lives near Lordsburg and will provide space and care of the cores.

Upon receipt of the resistivity or geophysical report from Dr. Lee, it is contemplated to arrange for a conference, on the ground, with DMEA representatives and myself as a consultant, with C.W. Horzmann owner and the drilling contractor's representatives to select locations and determine the direction for each drill hole. Cores will be split and analyzed in accordance with arrangements to be agreed upon by DMEA and C.W. Horzmann.

Very truly yours,

James E. Bacon

James E. Bacon

JEB:j

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 3 1952

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

Not to be filled in by applicant

Docket No. dmea 2727
Metal or Mineral
Date Received 10-3-52
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Carl W. Hormann
P. O. Box 184
Lordsburg, New Mexico

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

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

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

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

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Nellie Bly; consists of 5 claims under one patent; namely, Nellie Bly, Brother Gardner, Baltimore, Independence, and Billie A. Also the Leitendorf unpatented claim.

(*b*) State any mine name by which the property is know Nellie Bly Group and Leitendorf #1 Claim

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Patent granted to Susquehanna Mining Co., Belfonte, Pa. who executed a purchase contract in favor of C.W. Hormann

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it $25,000 purchase contract payable $5,000 per annum, based on 10% net smelter returns

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice The Leitendorf Lode Claim #1 (unpatented) Recorded Book 3, Page 251-252. See photostat of "Proof of Labor on Mining Claim" Exh. 3-f

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

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. (See Exh. 4-b-1)

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

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. Are indicated on area maps - Exh. 4-a, d.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power See 4-e.

16—66551-1

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore **copper and cobalt**

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

(*c*) The work will start within **30** days and be completed within **6** months from the date of an exploration project contract.

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

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

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

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

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

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

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

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

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

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

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

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

(*b*) How do you propose to furnish your share of the costs?

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

Explain in detail on accompanying paper.

CERTIFICATION

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

Dated Oct. 1, 1952

C. W. Forzmann
(Applicant)

By

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—66551-1

C. W. Horzmann
Lordsburg, N. Mex.

The data hereto attached is arranged as follows:

3 - Applicant's property rights

(d) Exhibit 3-d - Photostat
Proof of Labor Mining Claim
Leitendorf #1 - Dated 9/8/52

4 - Physical description

a and c - See description quoted from U.S.G.S. Bulletin 885
Exhibit 4-a-1 - Photostat Bulletin 885 - Plate indicates general location, surface and roads

Exhibit 4-b-1 - Photostat of shipments made from Nellie Bly 1909-1910 as furnished by Hawley & Hawley, Douglas, Arizona, indicating returns from 98 cars averaging $450.00 per car. Total $43,333.36.

Exhibit 4-c-1 - Photostat of sketch of the six claims to which is attached sheet showing the pits and other information pertaining to prospecting.

Exhibit 4-a-3 - Photostat Plate 25 - Bulletin 885.

Exhibit 4-c-2 - Photostat of analysis of samples from Frankie M and Leitendorf #1 claim - indicating the values from 4 shipments taken from the pit and dump on this claim in 1950-1951-1952.

4-e - Manpower, material and supplies are available in Lordsburg. Equipment for resistivity survey and core drilling will be furnished by contractors. The water is available on the property. Electricity is furnished by the Community Public Service Co. of Lordsburg. Natural gas is supplied by Lee Co. gas lines four miles north of Leitendorf area.

5-c - Resistivity estimated not to exceed 15 days, core drilling subject to results of resistivity survey.

5-d - C. W. Horzmann, the applicant, has been identified with prospecting and operating mineral exploration work in this district for ten years and will be guided in technical phases by DMEA representatives and J. E. Bacon, formerly chief of the Non-Metallic Section, Mineral Division, WPB, and such other technical advice as may be required.

C. W. Horzmann
Lordsburg, N. Mex.

6 - Estimate of Cost

$ 5,000.00	Geophysical survey by F. W. Lee and associates.
1,000.00	Consulting fees - J. E. Bacon - @ $50.00 per day plus expenses
1,000.00	Trenching and bulldozing - analyzing samples after geophysical survey
7,000.00	Total - First Phase
12,000.00	Core Drilling - 10 holes 200' each Open pit zone as indicated on Leitendorf claim #1 of geophysical report indicates sufficient area to warrant such a program
750.00	Sampling and analyses
12,600.00	Core Drilling original vein Minimum 3 holes 700' each to cut the vein at 400' as indicated by Plate 25 U.S.G.S. Bulletin 885
1,500.00	Supervision of coring operations, selecting, recording, sampling cores, transportation, etc.
700.00	Analyzing core splittings
1,000.00	Consulting fees and expenses J. E. Bacon involved in coring program
$28,550.00	Total - Estimate - Second Phase
$35,550.00	Total - Both First and Second Phase

6-a - The applicant will contract for resistivity as per proposal by F. W. Lee and Associates (copy attached). Bulldozing, core drilling and analyses will be handled on a unit basis through established channels.

6-b - Supervision. The resistivity work will be handled by F. W. Lee under their own supervision after the boundaries have been established by C. W. Horzmann.

Trenching will be handled by C. W. Horzmann by employing local labor at locations agreed upon with DMEA representatives. Bulldozing will be on a per diem basis under the supervision of C. W. Horzmann at locations selected by DMEA and Horzmann.

The core drilling as provided in the operations in the second phase will be under the supervision of C. W. Horzmann at locations selected and in directions approved by DMEA and Horzmann.

6-d - The cores will be delivered by drilling contractors to C. W. Horzmann Ranch, and C. W. Horzmann will be paid for use of his car on a per mile basis.

C. W. Horzmann
Lordsburg, N. Mex.

6-e - None contemplated

6-f - None contemplated

6-g - None

6-h - No provision

.W. Horzmann
Lordsburg, New Mexico
Exhibit 3 d.

PROOF OF LABOR ON MINING CLAIM

State of New Mexico)
) ss.
County of Hidalgo)

Merle Horzmann being first duly sworn, deposes and says that the owner Merle Horzmann of the unpatented mining claim in the Pyramid Mining District in said County and State known and recorded by the name of Leitendorf (No. 1) Sometimes known as Frankie M. caused to be done and performed the assessment work thereon required by law to be done upon such claim for the year ending 1952, and that the time when said work was done in the month of March and April 1952, and the amount, character and actual cost thereof was as follows:

Timbered shaft to depth of 35 feet and sank 12 feet on 6 x 12 shaft, repaired road, other minor things, The cost was approximately $2,100 or over, and the names of the persons who performed such work are as follows: E. M. McGary, C. W. Horzmann and Merle Horzmann.

This affidavit is made by the undersigned in conformity with Section 88-113 New Mexico Statutues. Compilation of 1929.

Merle Horzmann
By F. G. Behmlander, Administrator.

Subscribed in my presence and sworn to before me this 9 day of June A.D.1952.

Marshall Fuller County Clerk.

Seal. By Emma J. Scofield, Deputy.

STATE OF NEW MEXICO)
COUNTY OF HIDALGO) ss. I Marshall Fuller, County Clerk in and for the above County and State do hereby Certify that the above and foregoing is a full, true and correct copy of the Proof of Labor filed for record in this office by F.G.Behmlander, Administrator of the Estate of Merle Horzmann, on the Frankie M. or Leitendorf No. 1. mining claim, as the same appears of record in Mining Deed Book #3 at page 413.

Dated at Lordsburg, Hidalgo County, New Mexico, this 8th day of July, A.D.1952.

/s/ Marshall Fuller
Hidalgo County Clerk.

C. W. Hormann
Lordsburg, N. Mex.

The Nellie Bly group and the Leitendorf #1 - Exhibit 4-a-2 - claims more specifically described above are located in the Pyramid subdistrict and more particularly described on page 56 of the GEOLOGICAL SURVEY BULLETIN 885 as follows:

General Features

The Pyramid subdistrict, south of the Lordsburg-Animas highway and 5 miles south of the main part of the Lordsburg district, has always been considered a silver camp, and the general geology and mineralogy as described in published and private reports led to the inference that the veins were of the precious-metals type related to the Tertiary lavas. It seemed worth while, therefore, to extend the geologic mapping of the Lordsburg district to cover the Pyramid area and to determine the relations of the ore deposits there to the copper deposits in the Virginia area. This additional work disclosed the facts that the veins in the Pyramid district are of the same age as those of the Virginia district and genetically related to them, and that they were originally mineralogically similar, their high silver content being due, certainly in part and perhaps wholly, to supergene enrichment. The chief difference between this enriched ore and equally rich supergene silver ore in the copper veins of the Virginia district is that considerable copper was present in the silver shoots in the Virginia district, whereas copper is in general subordinate at Pyramid.

History and Production

The veins at Leitendorf camp were discovered in 1880, and within a year this camp had become the most active in the Lordsburg mining area. Four productive mines - the Venus, Last Chance, Robert E. Lee, and Nellie Bly - were developed, and one or more of these mines has produced ore in nearly every year since the discovery of the veins. The camp appears to have been idle for part of the time from 1885 to 1905, though records for that period are incomplete, and was idle from 1924 to 1927 and from 1931 to the date of writing (1934).

A large part of the ore mined was shipped directly to smelters, but several attempts were made to concentrate the ores at the mines. A 20-stamp pan-amalgamation mill was erected at the Venus mine (then known as the Viola or Leitendorf) in 1883 and was operated spasmodically with indifferent success until 1893.

The value of the metals produced in the camp up to 1905 has been given as between $375,000 and $450,000. The production since 1905 has been equally large if not larger, the Last Chance mine alone having produced in 1919 and 1920 concentrates with a net value of $93,386. The value of the total production from the district may be estimated conservatively at about $1,000,000.

Geology and Ore Deposits

The veins of the Pyramid area crop out chiefly in basalt at the north edge of the Leitendorf Hills. A patch of intrusive breccia 300 to 400 feet in diameter crops out at the Venus mine, and a quartz latite dike crops out for

1,000 feet or so along the Nellie Bly-Robert E. Lee vein. Immediately south of the camp these older rocks are covered by the Tertiary volcanic breccia that forms the Leitendorf Hills. Erosional debris from these hills mantles a part of the area, and the location of the veins is indicated chiefly by mine openings from below. The veins trend eastward and northeastward, as in the Virginia area, but none have prominent outcrops.

The material on the dumps indicates that the vein filling is in general similar to that in the Virginia area and is identical with the filling at particular places in that area. It seems to be a composite of material deposited from the second to the fifth stages of mineralization. On the dumps of the Venus and Last Chance mines the vein matter consists chiefly of dense to cherty quartz partly blackened by manganese oxides derived from associated carbonate. Some of the freshest of this material ben be recognized as the quartz-manganosiderite mixture common in the western part of the Eighty-five mine. A little barite is present. Fine-grained chalcopyrite and galena and a trace of sphalerite are distributed in the gangue, and small flakes of cerargyrite seem common. Cerargyrite, accompanied by native silver and argentite, is said to have been the most valuable mineral at the Venus and Last Chance mines. Shipments from these two mines consisted of lead-silver-gold ore and silver ore low in copper and lead.

The dumps of the Nellie Bly and Robert E. Lee mines, which seem to be on the same vein, contain considerable calcite associated with quartz and with a fair amount of galena and coarse chalcopyrite, and massive chalcopyrite is said to have been encountered in the vein. Shipments from these mines consisted of lead ore, silver-bearing high-grade copper ore, and low-grade siliceous copper ore containing gold and silver.

Plate 25 (Exhibit 4-a-3) from BULLETIN 885 is reproduced and indicates the workings of the Nellie Bly mine as developed in July, 1908. This Bulletin quotes other authorities to the effect that "... The production of the Nellie Bly up to 1905 was said to be $20,000 in copper, silver and gold. The ratio of silver to copper was about 1 ounce of the former to each 20 lbs., or one percent of the latter." At the present time the shaft is flooded to 100 feet of surface.

Exhibit 4-b-1 Hawley and Hawley of Douglas, Arizona, furnished the list of shipment together with analyses as indicated on footnote copies of Exhibit 4-b-1.

Exhibit 4-c - The geology photostat of the above mentioned properties (3-a) are more specifically described in the GEOLOGICAL SURVEY BULLETIN 885. It is the purpose of this application to explore these properties by operating in two phases: (1) It is proposed to have F. W. Lee make a resistivity survey indicating the size and positions of the mineral deposition into a depth of 500 feet. After this resistivity survey has been completed, it is proposed to follow this by a second phase of this exploration program; namely, core drilling. The attachment hereto is a schedule on a map indicating the area to be surveyed and core drilled with estimated expenses.

Exhibit 5-b - The core drilling will be determined by the result of the resistivity exploration.

Date of Shipment	Per cent copper	Gross price per ton	Net price per ton	Per lb.	Net. Amt. pd. per ca
1909?					
April 28	7.8-10	$26.53	$16.83	.1525	$ 373.42
April 28	13.0	47.65	38.18	.1525	702.73
May 25	6.0	21.32	11.86	.1525	226.72
May 19	4.1	15.08	5.74	.1525	118.78
May 24	4.8	17.97	8.87	.15 13-32	/171.02
June 2	4.9	18.13	8.84	.15 3-8	150.50
June 2	9.9	35.68	28.34	.15 3-8	512.18
June 26	4.77	19.79	11.87	.1573	274.92
July 21	4.41	16.96	8.63	.1552	166.87
July 21	4.14	18.26	10.05	.1544	281.58
July 30	4.68	22.18	14.82	.1541	411.48
Aug. 3	5.22	25.06	18.07	.1541	482.54
Aug. 10	5.22	26.09	19.06	.1554	541.92
Aug. 10	5.58	26.19	19.28	.1554	520.52
Aug. 17	5.4	2515	18.22	.1559	483.41
Aug. 21	9.45	42.90	36.17	.1559	601.72
Aug. 21	4.77	23.28	16.41	.1559	522.89
Aug. 27	5.76	29.88	23.09	.1562	762.25
Sept. 6	5.67	31.15	24.23	.1569	732.55
Sept. 6	5.13	25.77	18.97	.1569	573.60
Sept. 6	4.68	25.54	18.64	.1569	548.06
Sept. 10	4.77	24.98	18.08	.1583	507.75
Sept. 15	4.41	22.91	15.86	.1583	430.02
Oct. 9	3.15	15.27	8.21	.1697	223.94
Oct. 9	3.42	16.72	9.75	.1697	261.70
Oct. 26	3.78	17.93	10.91	.1871	311.68
Oct. 26	3.15	15.51	8.83	.1871	235.91
Oct. 31	2.79	13.77	5.88	.1900	144.11
Nov. 7	3.33	16.32	9.05	.1895	237.56
Nov. 11	3.78	18.42	11.33	.1895	302.87
Nov. 13	4.455	21.41	14.44	.1894	414.91
Nov. 20	4.68	23.51	16.73	.1903	605.06
Nov. 24	9.54	56.82	11.30	.1903	1166.00
Nov. 24	4.23	22.79	15.83	.1903	345.14
Dec. 21	3.06	16.83	9.52	.1973	248.56
Dec. 24	2.07	12.36	4.63	.2017	115.05
1910?					
Jan. 5	2.79	15.00	7.39	.2057	171.10
Jan. 28	4.32	21.65	14.36	.2181	408.66
Feb. 5	4.5	24.62	17.42	.2203	460.23
Feb. 15					721.02
Feb. 28	6.705	34.70	28.34	.2212	926.81
Feb. 28	6.165	32.10	25.57	.2212	845.85
Feb. 28	6.615	36.20	29.51	.2212	726.04
Feb. 28	6.48	33.59	27.13	.2212	810.90
Feb. 28	7.245	37.80	31.27	.2209	819.19
Feb. 28	6.03	32.01	25.08	.2209	600.12
Feb. 28	7.02	36.50	30.22	.2212	735.09
Feb. 28	5.76	30.15	23.54	.2212	632.29
Feb. 28					857.00
Mar. 16	5.13	26.97	20.76	.2227	622.72
Mar. 12	5.13	25.97	19.37	.227	519.82
Mar. 5	5.13	26.24	19.78	.2212	526.88
Mar. 13	3.87	29.18	20.09	.2227	110.83
Mar. 13	13.635	70.59	65.83	2227	1106.97
Mar. 26	5.04	26.96	19.36	.2247	581.73
April 11	5.4	27.62	21.93	.2190	707.59
April 11	5.535	27.98	22.07	.2190	711.18
April 23	4.32	21.96	15.84	.2129	386.58
April 26	3.09	19.62	13.57	.2129	356.27
May 4	4.77	23.70	17.68	.2137	575.79
April 30	5.22	25.57	19.68	.2137	522.22

Exhibit 4-b-1 Hawley and Hawley of Douglas, Arizona furnished the list of shipments together with analyses as indicated on footnote copies of Exhibit 4-b-1.

Date of Shipment	Per Cent Copper	Gross price per ton	Net price per ton	Per lb.	Net Amt. ýd. per car
April 30	4.725	$ 23.34	$ 17.19	.2137	530.55
May 7	5.58	27.28	21.37	.2152	567.29
May 8	6.3	30.30	24.29	.2153	665.13
May 14	5.13	25.31	19.58	.2169	525.60
May 25	5.4	27.49	21.08	.2150	621.83
May 27	5.445	27.30	20.81	.2185	624.09
June 1	5.9	25.99	19.75	.2125	614.57
June 11	4.275	23.98	17.70	.2055	531.96
June 27	4.59	24.23	18.04	.1990	678.43
June 19	4.77	22.79	17.14	.2021	542.64
June 27	3.87	21.14	14.81	.1990	464.72
June 27	2.79	14.79	8.47	.1990	242.75
July 7	15.12	66.95	62.43	.1950	1347.84
July 10	2.79	15.31	6.78	.1937	157.80
July 10	2.88	14.20	7.45	.1937	209.03
July 10	3.15	15.84	9.01	.1937	214.83
July 9	2.3	12.11	5.60	.1937	154.16
July 17	4.59	20.62	14.13	.1937	463.88
July 27	3.42	15.47	6.24	.1840	172.00
Aug. 17	4.797	18.74	12.17	.1579	320.18
Aug. 3	4.41	18.22	11.69	.1758	550.46
Aug. 15	4.41	18.36	11.91	.1675	252.60
Aug. 15	4.775	19.04	12.28	.1675	357.61
Aug. 15	4.775	19.17	12.56	.1675	323.86
Aug. 15	4.536	17.93	11.66	.1675	348.08
Aug. 23	3.78	14.36	7.06	.1579	179.33
Aug. 20	4.41	17.11	10.34	.1579	252.74
Aug. 20	4.14	15.56	8.44	.1579	188.87
Sept. 4	3.87	13.39	6.82	.1500	180.48
Oct. 5	4.158	12.60	5.76	.1201	139.64
Oct. 9	4.05	12.07	5.14	.1177	158.01
Oct. 12	4.68	13.30	5.91	.1177	141.65
Oct. 23	14.661	37.67	32.86	.1040	298.82
Oct. 23	4.113	10.53	313	.1040	52.28
Oct. 26	4.77	12.62	5.29	.1040	106.15

Total number of cars shipped 98 Total amount paid $ 43333.36

Making an average of nearly $450.00 per car

C.W. Horzmann
Lordsburg, New Mexico

C. W. Horzmann
Lordsburg, N. Mex.

Explanation - Map

Data Re Map

This application does not cover the Robert E. Lee but is located on the sketch to show location.

There is a tunnel and shaft toward the East end of the Baltimore claim which have not been examined of late.

There is a basalt dike North of the main shaft ("P") on the Leitendorf claim and another dike between the shaft "P" and the well "R". These are the only surface showings of dikes on any of the claims.

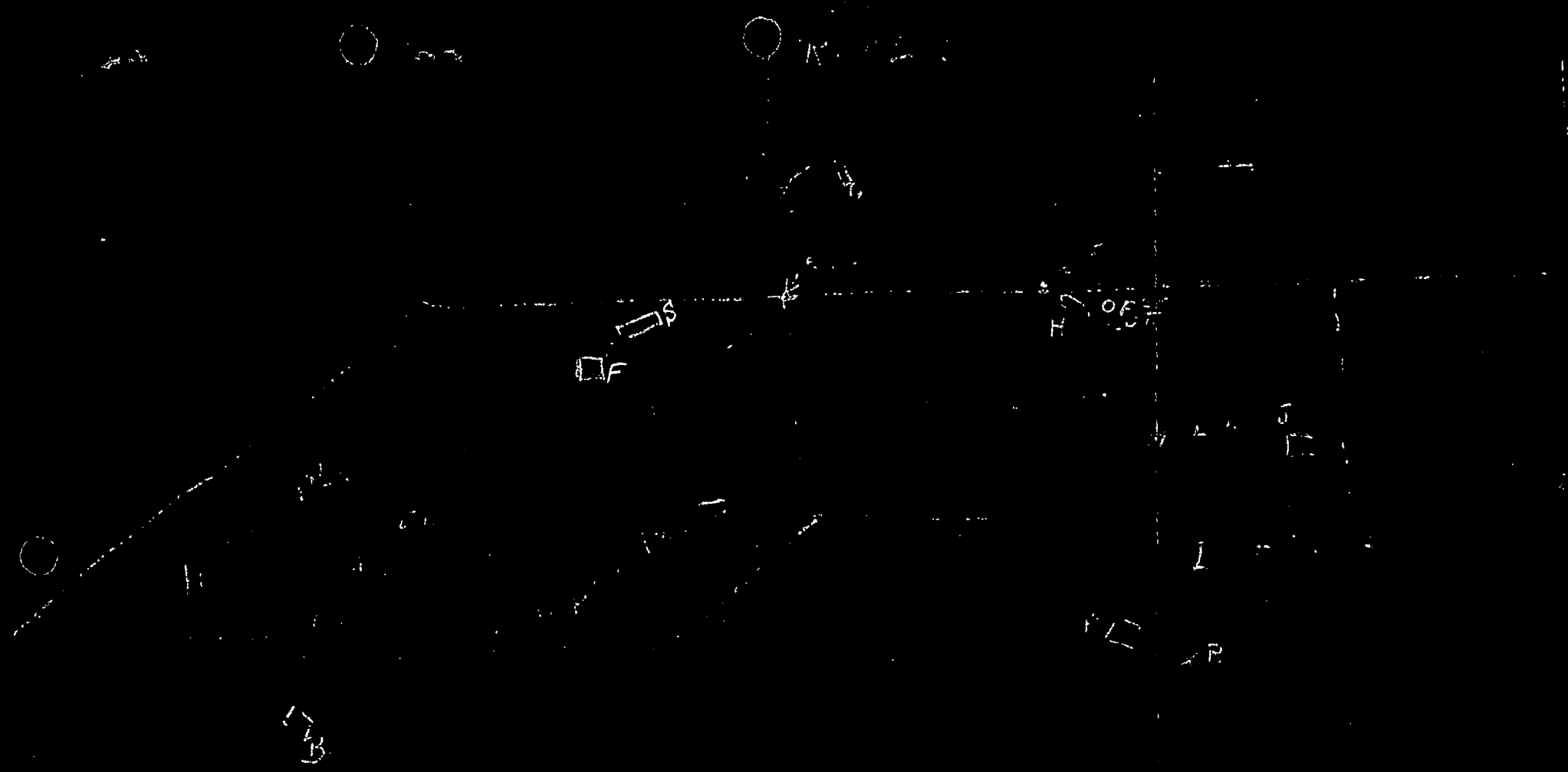
On Billie A claim there is evidence of a vein on the surface which runs parallel with the main Leitendorf vein and the same rich silver ore.

There are no workings on the Independent claim.

Leitendorf - Unpatented
Lode Claim
Exhibit 3-d

4-e - $25,000.00 payable $5,000.00 per annum - based on 10% net smelter returns.

3-f - Book and Page Numbers of the Leitendorf claim.



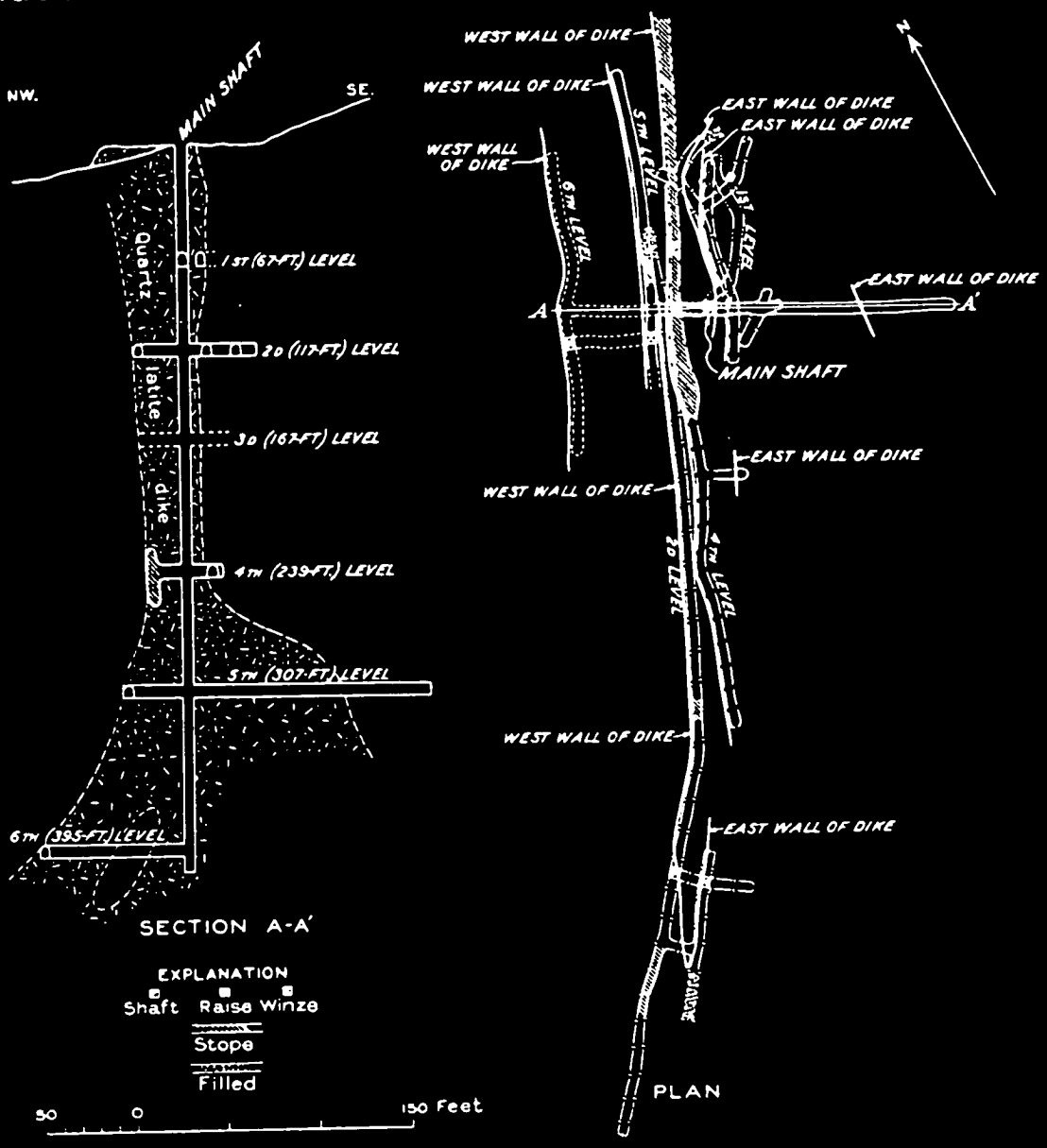
U.S. Survey
1509

Legend

B - Shaft on Bro. Gardner
C, D, E - open cuts
F - Main shaft on Nellie Bly
S - wind mill shaft
G - Shaft on Robt. E. Lee
H - open cut on Billie "A"

J, K, L - Shafts
M - open cut
P - Main shaft on Lightenant
R - [illegible]

C.W. Horzmann
Lordsburg, New Mexico
Exhibit 4 (a)-2



PLAN AND SECTION OF THE NELLIE BLY MINE AS DEVELOPED IN JULY 1908.

Copied from an old map, author unknown.

Plate 25 (Exhibit 4-a-3) from BULLETIN 885 is reproduced and indicates the workings of the Nellie Bly mine as developed in July, 1908. This Bulletin quotes other authorities to the effect that "... The production of the Nellie Bly up to 1905 was said to be $20,000 in copper, silver and gold. The ratio of silver to copper was about 1 ounce of the former to each 20 lbs., or one percent of the latter." At the present time the shaft is flooded to within 100 feet of surface.

C.W. Horzmann
Lordsburg, New Mexico
Exhibit 4 (c)-2

HAWLEY & HAWLEY

W. E. HAWLEY, MGR.
ASSAYERS, CHEMISTS
SHIPPERS REPRESENTATIVES
ORE BUYERS

EL PASO, TEXAS
BOX 4

537 12TH STREET
BOX 1060
DOUGLAS, ARIZONA

Douglas, Arizona,
September 24, 1952.

Mr. C. W. Horzmann,
Lordsburg, N. M.

Dear Mr. Horzmann:-

Our records show that we have received the following lots of ore from the Frankie M. Mine, Pyramid Mining District, N. M.:

Shipper	Date Rcd	Dry Tons	Ozs Gold	Ozs Silver	% Copper
L. F. Harris	5/1/50	1.438	0.02	88.6	4.42
Alice Horzmann	12/18/50	0.9135	0.01	112.1	5.74
" "	2/13/51	0.5535	0.01	121.8	5.69

From the Leitendorf #1 Claim, Pyramid Mining District, N. M., in same consecutive order as before:

Alice Horzmann	5/1/52	1.369	0.01	28.1	1.44

Trusting this information will be of service to you, I am,

Very truly yours,

W. E. HAWLEY, MGR.

NOTE: (a) Frankie M. Mine and Leitendorf #1 Claim, referred to above, are the same property; (b) Alice Horzmann is Merle Horzmann, deceased wife of C.W. Horzmann.

Exhibit 5-b

C. W. Horzmann
Lordsburg, N. Mex.

The geological features as described in U.S.G.S. BULLETIN 885 and quoted in Exhibit 4-a-2 indicate the possibility of mineralization over a wide area. The brecciated character on the surface indicates the possibility of widely diffused mineralization.

It is therefore believed that the program covered by this application should be separated into two phases.

Phase 1 - It is proposed to have Dr. F. W. Lee and his associate, Frank Farnham, complete a geophysical survey as described in their proposal as per copy attached. Some trenching or bulldozing may be warranted if approved by DMEA and C. W. Horzmann. The application therefore suggests $5,000. for resistivity survey and $1,000. contingent for trenching or bulldozing.

Phase 2 - $14,000.00 is suggested as the minimum required for core drilling, sampling and analyzing. The distribution to be determined by DMEA and C. W. Horzmann.

C.W. Horzmann Application

L O N G C O

The Lee Oil and Natural Gas Company

110 East Lexington St.,
Baltimore 2, Maryland

September 16, 1952

Mr. James Everett Bacon
600 Woodside Parkway
Silver Springs, Maryland

Dear Mr. Bacon:-

We will be pleased to make a thorough electrical resistivity survey of each of your five claims, totaling 135 acres, located in Hidalgo County, New Mexico, for the purpose of delineating any mineral deposits which might occur on them.

The total cost of these surveys to you will be $5,000.00; $2,500.00 of which is to accompany the order for the work and the balance to be due upon your receipt of the final report.

At the moment we are in a position to proceed immediately upon receipt of the order with the execution of the surveys.

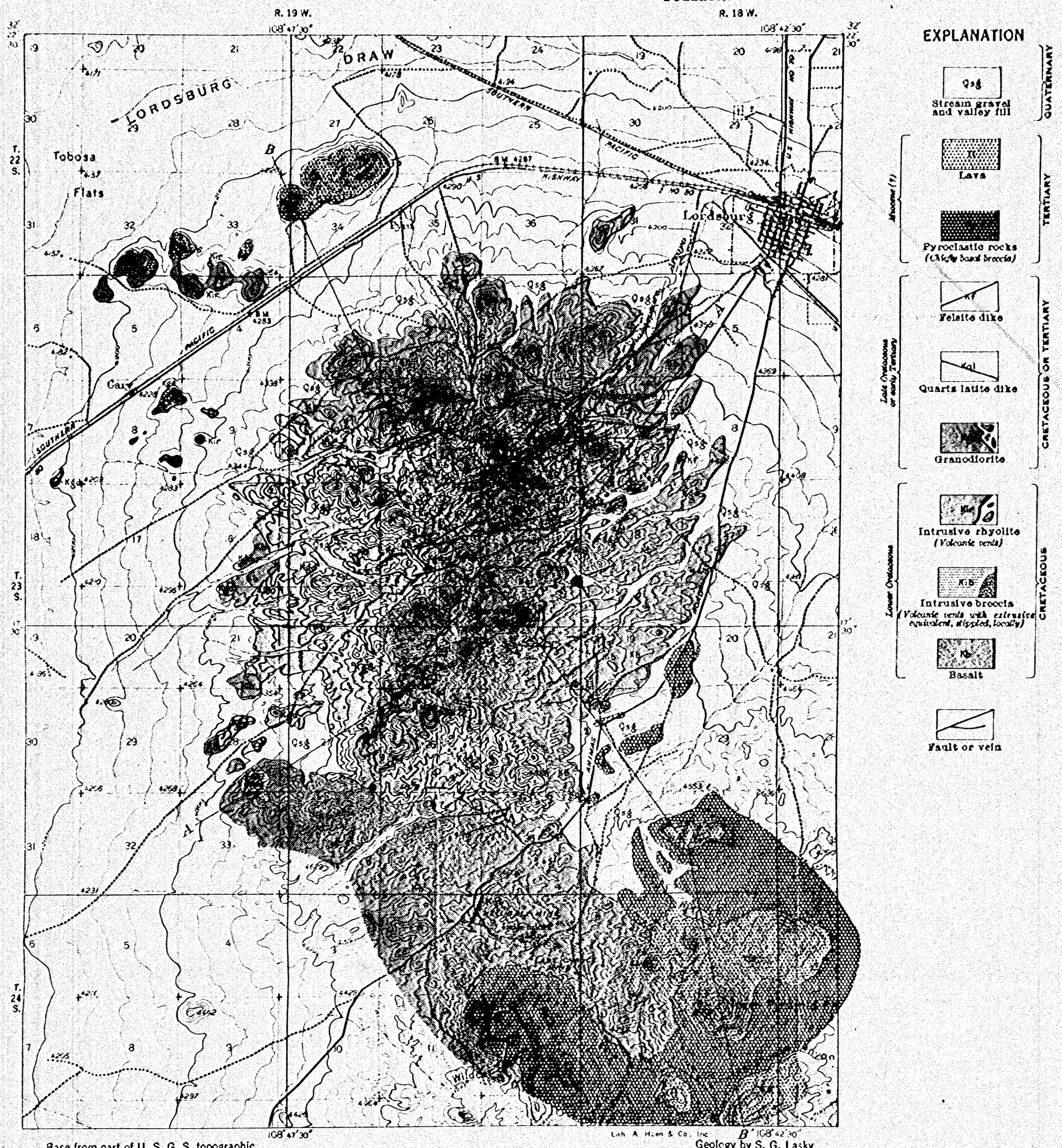
Please keep us fully informed regarding the development of your plans so that our plans may be developed along with them.

Yours very truly,

Frank C. Farnham

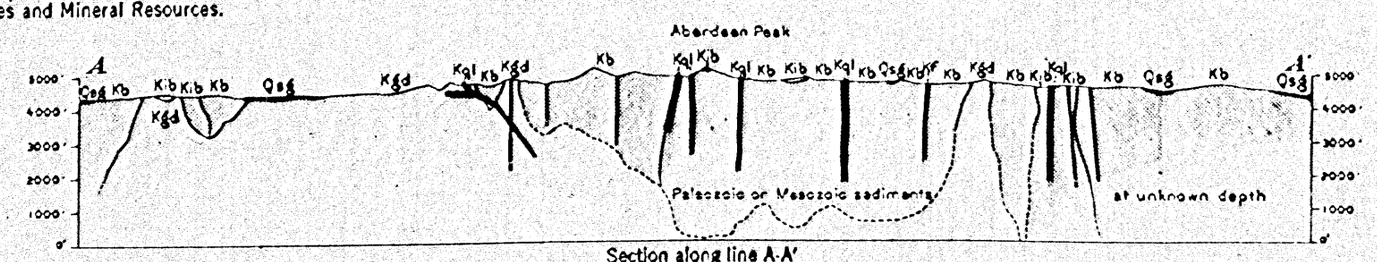
FCF:bg

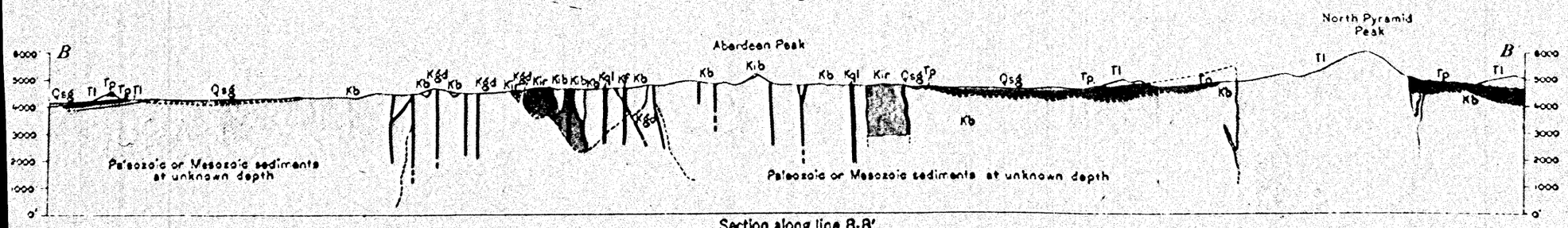
cc: Mr. C. W. Horzmann
Lordsburg, New Mexico



Base from part of U. S. G. S. topographic map of Lordsburg quadrangle.
Surveyed in cooperation with the New Mexico Bureau of Mines and Mineral Resources.

Geology by S. G. Lasky





GEOLOGIC MAP AND SECTIONS OF THE NORTHERN END OF THE PYRAMID MOUNTAINS, HIDALGO COUNTY, N. MEX.

NOTE:- At top of plate the name should be E. H. Wells.

Scale $\frac{1}{62500}$

Miles

Feet

Kilometers

Contour interval 25 feet

Datum is mean sea level

1938