

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
DOUGLAS MCKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION  
REPORT OF EXAMINATION BY FIELD TEAM  
REGION IV

DMEA-3141, Wood Mining Co.'s San Francisco Copper Prospect  
New Placers Mining District, Santa Fe County, New Mexico

R. F. Robinson, Geologist  
U. S. Geological Survey

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U. S. Bureau of Mines

September 1953

14075

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By R. F. Robinson <sup>1/</sup> and L. L. Farnham <sup>2/</sup>

In July 1953, the Wood Mining Company applied to the Defense Mineral Exploration Administration under the Defense Production Act of 1950, as amended, for an exploration loan amounting to \$39,994. The application was docketed as DMEA-3141. The funds requested were for the purpose of further exploring a copper-tungsten prospect situated in the San Pedro Mountains of Santa Fe County, N. Mex.

The claims comprising the subject property were originally located in the late 1880's. They were relocated by the present owner in 1946. Production, resulting from periodic lessee operations, has probably amounted to several hundred tons of selected copper ore.

The ore, consisting of chalcopyrite with small amounts of gold-silver, occurred in superimposed bedding plane fractures within a zone of silicified and garnetized limestones which has been invaded by porphyry sills.

The 2 principal mineralized horizons dipped flatly eastward and were separated by some 50 feet of altered limestone. Both beds were of comparable size, with the appreciable copper mineralization limited to a strike length of about 150 feet and an average thickness of not more than 1.5 feet. Thus the inferred potential of each horizon would be of the order of 20 tons per foot of depth.

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<sup>1/</sup> Geologist, U. S. Geological Survey

<sup>2/</sup> Mining Engineer, U. S. Bureau of Mines

It was estimated from sample results and visual inspection that the average grade of the deposits would not exceed 3.5 percent copper with minor amounts of gold-silver and a negligible quantity of tungsten trioxide.

It was concluded that the deposits were too small, in relation to their grade, to warrant further exploration. Therefore, it is recommended that the application for the loan be denied.

DMEA-3141, WOOD MINING CO.'S SAN FRANCISCO COPPER PROSPECT  
NEW PLACERS MINING DISTRICT, SANTA FE COUNTY, NEW MEXICO

**Engineering Report**

By **L. L. Farnham**  
**Mining Engineer**  
**U. S. Bureau of Mines**

**September 1953**



DMEA-3141, WOOD MINING CO.'S SAN FRANCISCO COPPER PROSPECT  
NEW PLACERS MINING DISTRICT, SANTA FE COUNTY, NEW MEXICO

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## INTRODUCTION

Late in July 1953, the Wood Mining Company applied to the Defense Minerals Exploration Administration under the Defense Production Act of 1950, as amended, for an exploration loan amounting to \$39,994. The application was docketed as DMEA-3141. The funds requested were for the purpose of exploring a copper-tungsten prospect at greater depth. The property was visited by the field examiners on August 21, 1953.

## ACKNOWLEDGMENTS

Thanks are due Ray C. Wood for his help during the examination.

## LOCATION AND PHYSICAL FEATURES

The San Francisco copper prospect is situated about 2 miles southeast of the village of Golden in Secs. 21 and 22, T. 12 N., R. 7 E., New Placers mining district, Santa Fe County, N. Mex.

The subject claims are reached from Golden over 1.9 miles of a steep, rough mountain road that leaves the highway immediately south of the general store (see figure 1).

The property lies on the western flank of the San Pedro Mountains in an area of rugged relief at an altitude of about 7,200 feet above sea level. Los Cerrillos, on the Santa Fe Railroad, is 17 miles north of Golden and the nearest shipping point.

## HISTORY AND PRODUCTION

The claims comprising the subject property were said to have been originally located in the late 1880's and were known at that time as the San Francisco group. They were relocated by the present owner in 1946 under the name of the San Pedro group.

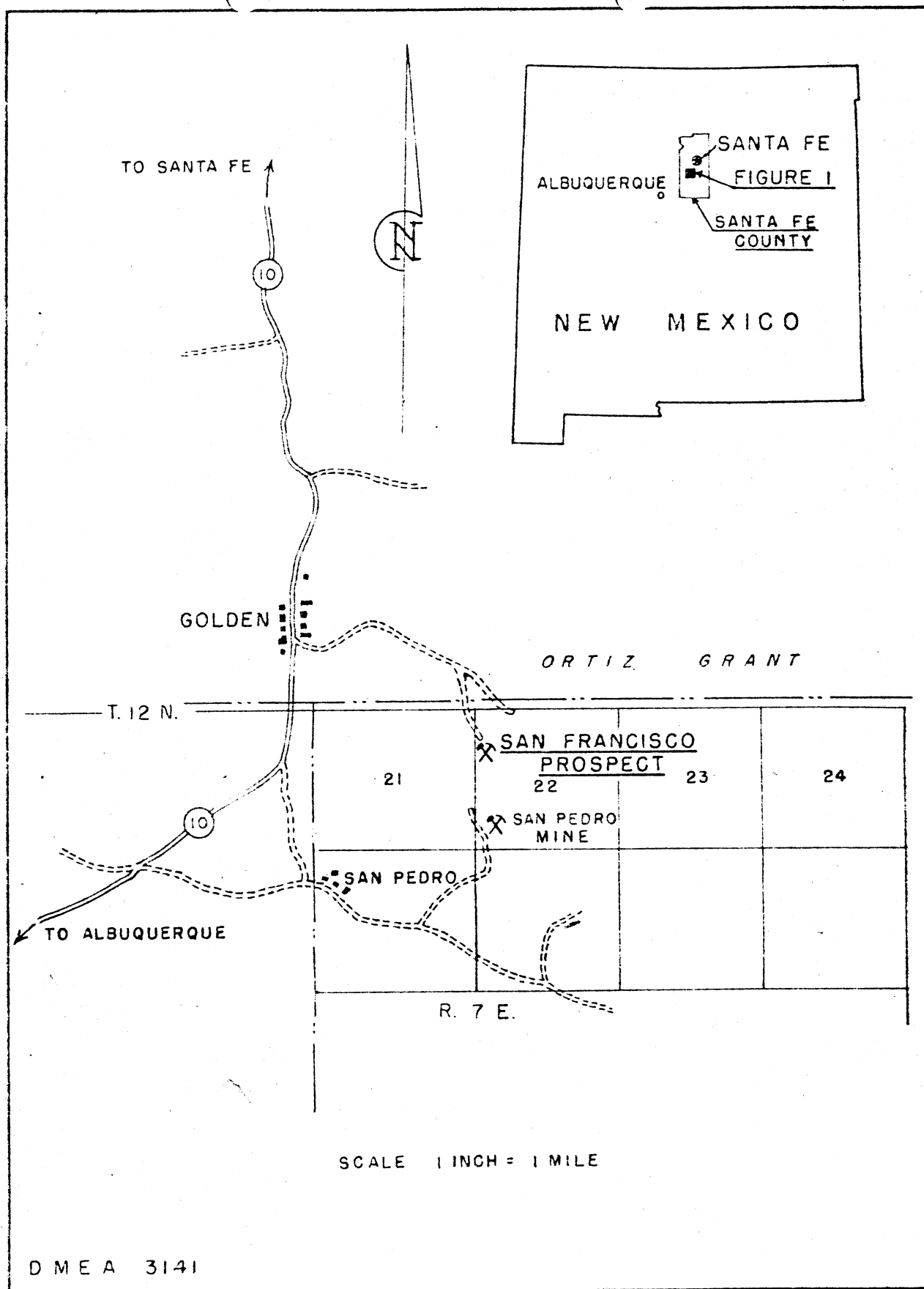


FIGURE 1. - LOCATION MAP - SAN FRANCISCO PROSPECT  
 NEW PLACERS MINING DISTRICT SANTA FE COUNTY, NEW MEXICO

An unknown but relatively small amount of copper ore has been shipped from the claims as a result of prospecting and "gophering" operations conducted intermittently by various lessees. Judged by the size of the stopes the production has probably been of the order of a few hundred tons of selectively mined and sorted ore.

#### OWNERSHIP AND EXTENT

The applicant company, a partnership consisting of Ray C. Wood and Edith J. Wood, have a lease and option on 4 unpatented lode claims owned by Earnest Rincon of Golden, N. Mex. The claims are recorded as the San Pedro No. 1, San Pedro No. 2, San Pedro No. 3 and the New Sunset Lode. None are full-sized claims as they either overlap patented ground or conflict with other prior locations. The San Pedro claims are contiguous whereas the Sunset is separated from that group by an intervening fraction known as the Sunnyside (see figure 2).

#### DESCRIPTION OF THE DEPOSIT

Copper mineralization occurred on the subject property in bedding plane fractures within a series of highly silicified and garnetized limestones which had been invaded by various sized porphyry sills. Three superimposed beds showing the presence of copper minerals were exposed on the San Pedro No. 1 claim. All had northerly strikes and dipped from  $15^{\circ}$  to  $20^{\circ}$  eastward. The lower of the 3 mineralized horizons (No. 1) which had been the most extensively explored, ranged from a few inches to several feet in thickness with appreciable copper

Sec. 21 22 T. 12 N., R. 7 E.

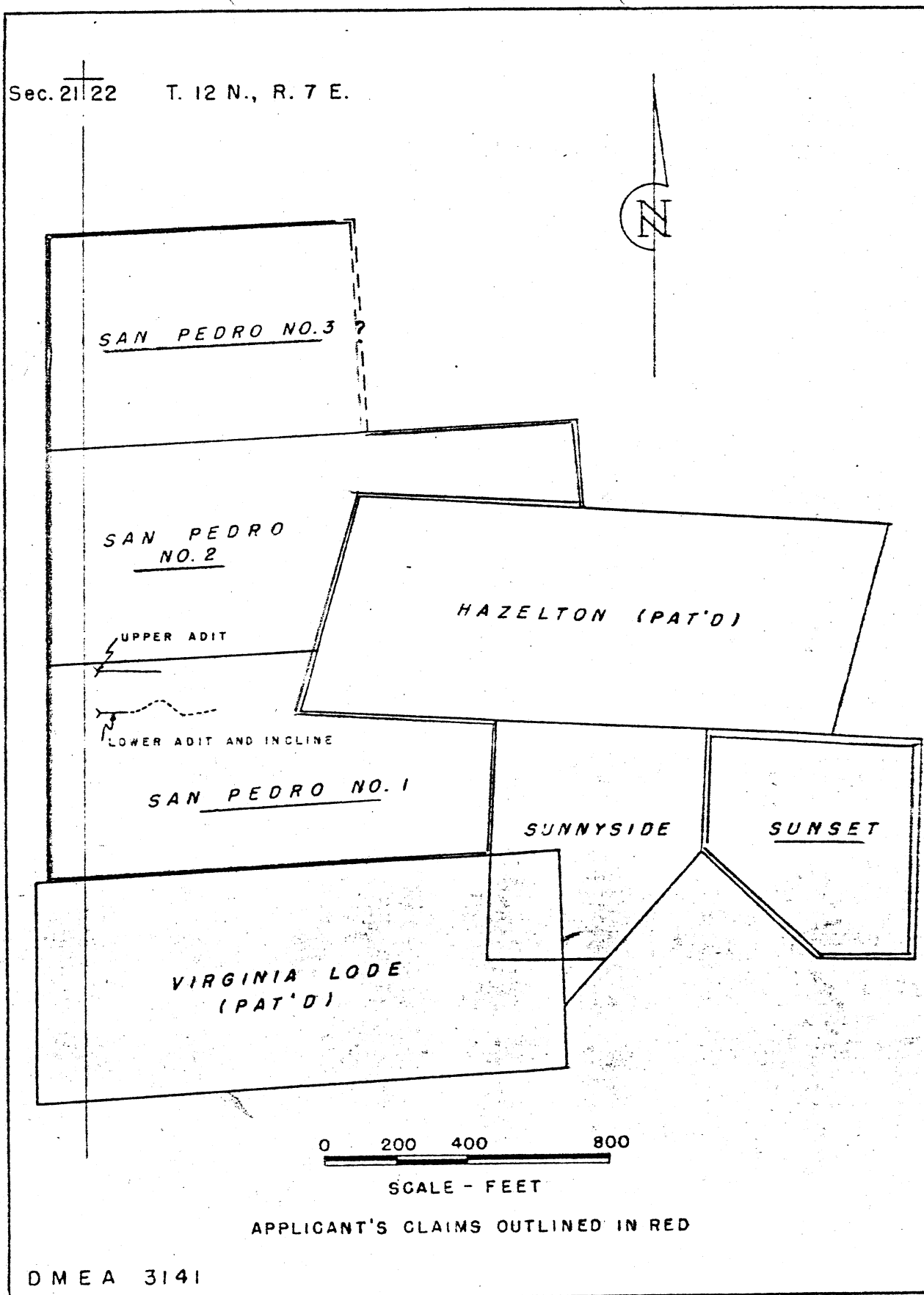


FIGURE 2.- CLAIM MAP - SAN FRANCISCO PROSPECT  
NEW PLACERS MINING DISTRICT SANTA FE COUNTY, NEW MEXICO

limited to a strike length of about 150 feet. The second mineralized fracture lying some 50 or 60 feet vertically above the lower was of comparable thickness and length to that of No. 1. The third of uppermost mineralized horizon, some 75 feet above the second bed, appeared to contain but little copper and so had only been explored by a few shallow cuts.

The bulk of the appreciable copper mineralization in the 2 lower beds cropped out in the area lying between the upper and lower adits (see figure 3). The strata in this area were arched with the thickest and best mineralization in both beds occupying the crest of the dome-like warp. In places on the crest of the fold the copper mineralization had been mined over thicknesses of as much as 6 feet but thinned rapidly down the flanks of the arch to 2 feet or less. The fold appeared to die out down the dip of the beds as did the thicker ore.

Chalcopyrite was the principal primary copper mineral and was associated with pyrite and specular hematite. Calcite, quartz and lime silicate minerals were the chief gangue constituents. Scattered specks of scheelite were present in places but no areas were noted where it appeared abundant enough to be significant. The ore, as well as the tactite wall rocks, was extremely hard and tough.

#### ORE RESERVES

There was no appreciable amount of ore remaining in the workings. The thickness of the mineralized fractures at no great distance below the outcrops ranged from a few inches to 3 feet and would probably

average not more than 1.5 feet. Appreciable amounts of copper in both beds were confined to a strike length of about 150 feet. Thus the potential of each mineralized horizon would be of the order of about 20 tons per foot of depth extension or 40 tons for both beds. As the mineralized fractures were some 50 feet apart each would have to be developed and mined separately.

Samples taken by the applicant at various places in the workings showed a copper content ranging from 2 to 4 percent, small variable amounts of gold and silver and in some cases a few hundredths of one percent  $WO_3$ . The results of 2 samples taken by the examiners are given below and their location is shown on figure 3.

No.	Width	Ozs./ton		Percent	
		Au	Ag	Cu	$WO_3$
12298	1.3 ft.	0.04	1.55	7.85	Less than 0.01
12299	Grab	0.01	0.40	1.54	Less than 0.01

The first sample above appeared typical of the better mineralized material such as was mined in the small stope at the face of the upper adit. The copper mineralization in this stope ranged from 1 to 2 feet in thickness. The second or grab sample was taken from a pile of ore recently broken from the lower mineralized horizon at the bottom of the incline. Here the mineralization was not more than 1.5 feet in thickness.

Judged by the sample results and from the visual inspection of the exposures it appears doubtful that the average grade of the deposits would exceed 3.5 percent copper with a negligible amount of tungsten and minor amounts of gold-silver.

#### PRESENT STATUS OF EXPLORATION

In addition to various openings along the outcrops the lower mineralized horizon had been explored from 2 crosscut adits and a crooked incline winze that followed the mineralization downward for some 200 feet (see figure 3). Gobbed stopes, some of which probably reached the surface, were evident in the upper part of the incline and on the south side of the upper adit. Due to the evident grade and limited thickness of the mineralization no stoping had been attempted in the lower half of the incline. The upper adit, some 130 feet north of the incline, intersected the lower or No. 1 bed at a distance of about 50 feet from the surface and continued easterly through altered limestone for 130 feet where it cut No. 2 mineralized horizon. This bed had been explored at the face of the adit for about 25 feet along the strike and for 15 feet up the dip by a small stope (see figure 3).

#### PROPOSED EXPLORATION

The applicant proposed the further exploration of the No. 2 mineralized horizon by means of 750 feet of underground work consisting of 300 feet of inclined winze and 150 feet of drifting on each of 3 levels to be driven from the proposed winze. The winze and the uppermost drift would start at the face of the upper adit (see figures 3).



### ESTIMATED COST OF PROJECT

As estimated by the applicant, the total cost of the proposed project would amount to \$39,994. These estimates were based on an average advance of 50 feet a month, thus requiring 15 months to complete the work. A summary of the monthly costs as shown in the application are as follows:

Labor, supervision and consultants-----	\$1,583.00
Operating materials and supplies -----	321.00
Operating equipment (rental and use allowance-----	281.56
Miscellaneous (including compensation insurance) -----	230.72
Contingencies -----	250.00
Total cost per month -----	\$2,666.28
Total cost of project (15 months)-----	\$39,994.00
Average cost per foot for 750 feet -----	\$52.32

Some of these items appear high and others low but the overall cost seems reasonable. No distinction was shown between the cost of sinking and drifting. In this case the work would penetrate extremely hard and tough tactite which would be extraordinarily difficult to drill and break. Consequently the cost of drifting would probably be about \$35 a foot and the winze sinking about \$20 a foot.

### CONCLUSIONS AND RECOMMENDATIONS

The deposit is considered to be too small in relation to its grade to warrant further exploration. It was the hope of the applicant that some place in the area of the proposed work the deposit would "open up" into much larger ore bodies. The exploratory work to date has failed to disclose substantial ore bodies and there was no evidence to indicate the probability that such might occur in the area of the proposed exploration. Therefore it is recommended that the application for the loan be denied.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

Report Nos.

Form No. 10

MMS-3141

## REVIEW OF EXAMINATION REPORT

State N. Mex. County Santa Fe Mineral products Copper-TungstenName of property San FranciscoOwner Harvest MineAddress Golden, N. Mex.Lessee or  
Operator Wood Mining Co.Address Albuquerque, N. Mex.Location Secs. 21 & 22, T. 13 N., R. 7 E., about 1.5 miles southeast of Golden  
in New Placers Mining District.Examined by L. L. FarnhamDate Aug. 21, 1953Apparent quality of examination and report Satisfactory.

## Discussion and review

This property was examined at the request of the Defense Minerals Administration, Pocket MMS-3141.

Chalcopyrite and pyrite occur with traces of scheelite in narrow bands in metamorphosed limestone. The deposit has a known length of 150 feet, a depth of 200 feet, and averages about 1.5 feet in width. It strikes northerly, dips 15° to 20° to the east, and has been developed by 2 shallow adits and a 200-foot inclined winze.

A few hundred tons of sorted ore have been produced but no mining was being done when the property was examined. The samples were taken which averaged 0.03 ounces of gold and 1.0 ounce of silver per ton, 4.5 percent copper, and less than 0.01 percent Mo; across 1.3 feet. No ore reserves could be estimated.

The examiner thought the deposit was too small with relation to the grade of ore to warrant further exploration.

DATE	ACTION	BY

Walter R. Storms

Reviewed by Walter R. StormsOctober 8, 1953

Date

L. L. Farnham (Orig. &amp; 3); MMS-3141; 463; 57

6-803  
(January 1952)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

Farnham No. 10  
DMEA-3141

SUMMARY REPORT OF MINERALS EXAMINATION

State N. Mex. County Santa Fe Mineral Products Copper with traces of  
scheelite

Name of property or deposit San Francisco

Date examined 8/21/53 Engineer L. L. Farnham Date of this report 10/9/53

Reason for examination Requested by Defense Minerals Exploration Administration - DMEA-3141

Engineer accompanied by Ray C. Wood Address 617 Dakota St.  
Albuquerque, N. Mex.

Extent of property 4 unpatented fractional lode claims

Owner Earnest Rincon Address Golden, N. Mex.

Leased or optioned to Ray C. Wood (Wood Mining Co.) Address Albuquerque, N. Mex.

Location of property (be specific) Secs. 21 & 22, T. 12 N., R. 7 E., New Placers Mining  
District, Santa Fe County, N. Mex., about 1.5 miles southeast of Golden

Type of deposit and mineralogy (brief description) Pyrite and chalcopyrite with traces  
of scheelite in narrow bands of metamorphosed limestone.

Known dimensions of the deposit Length 150 Width 1.5 feet Depth 200 feet

Attitude of the deposit (strike, dip, etc.) northerly strike with eastward dip of  
15° - 20°

Possible extensions; correlation of known showings None

Mine workings (brief description or attach map or sketch) (indicate whether accessible) 2 shallow adits and an inclined winze 200 feet long.

CC W. H. King (Orig. & 3); DMEA-3141; DF  
(over)

Mining and milling equipment on property.....~~None~~

Past production (if any).....~~Few hundred tons of sorted ore~~

Present rate of production (if any).....~~None~~

Sampling (describe briefly, or attach sketch).....~~2 samples were taken which averaged 0.03 ounces gold, 1.0 ounce silver, 4.6 percent copper and less than 0.01 percent  $\text{As}_2\text{O}_3$ . Average width samples was 1.3 feet.~~

Tentative Estimate of Reserves

(Subject to revision when assays are received or after engineering calculations)

Measurable.....~~None~~.....tons.....Grade.....

Indicated.....~~None~~.....tons.....Grade.....

Inferred.....~~None~~.....tons.....Grade.....

Mining method (actual or suggested).....~~Leaching~~

Milling or processing method (actual or suggested).....~~Direct smelting or flotation~~

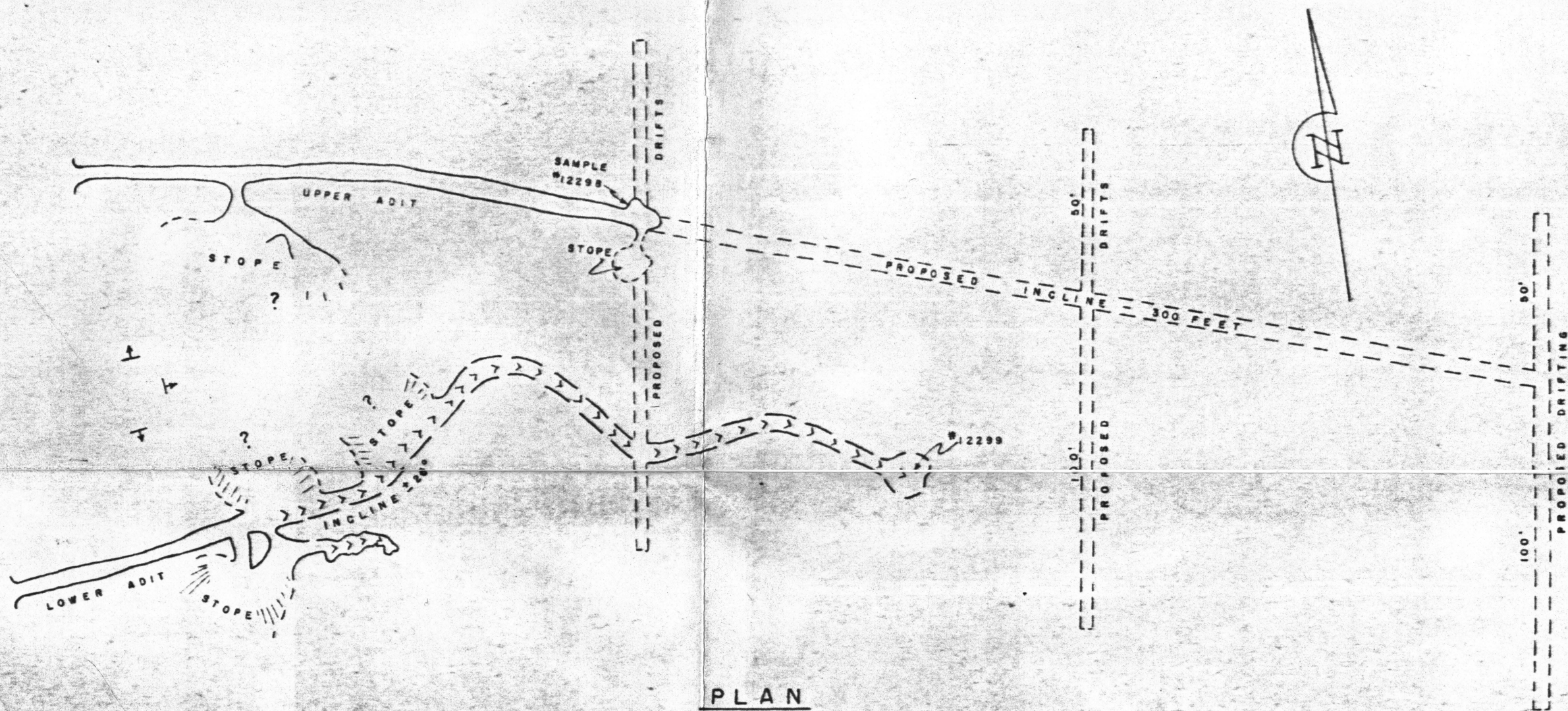
Processing tests suggested.....~~None~~

Tentative conclusion and decision.....~~The deposits were too small in relation to their grade to warrant further exploration.~~

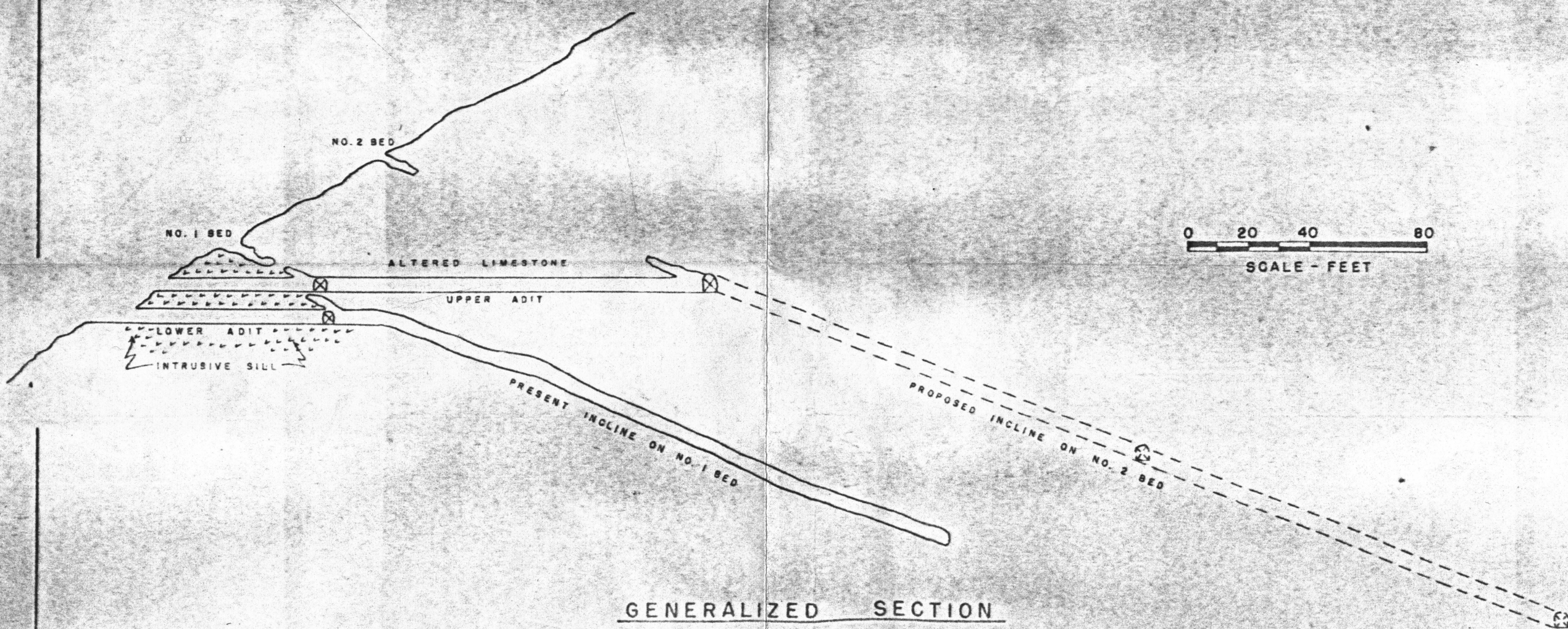
To be accompanied by brief letter giving examining engineer's general impression of the deposit, his impression of the owner, and any other confidential information he may care to submit. Refer to any known prior examinations and reports. May be executed in pencil. Should be mailed within 24 hours after examination is completed.

Send original and one copy to Washington Office.





PLAN



GENERALIZED SECTION

DMEA 3141

FIGURE 3. - PLAN AND SECTION - SAN FRANCISCO PROSPECT  
NEW PLACERS MINING DISTRICT  
SANTA FE COUNTY, NEW MEXICO