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JUN 17 1953

2866

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of Application by Field Team, Region IV
Docket No. DMEA-2866 - Tungsten
Vearn J. Buffaloe
Fulton Prospect
Santa Fe County, New Mexico

The applicant requested exploration assistance in the amount of $23,360.00 to explore a tungsten-bearing deposit on the property of the Fulton Prospect, Santa Fe County, New Mexico.

The rocks exposed in this area are primarily beds of limestone and shale that have been intruded by a syenite porphyry laccolith and by irregular porphyry sills.

The tungsten deposit has been described by Lindgren as contact metamorphic. In addition to scheelite, other ore minerals are chalcopyrite, malachite, azurite and chrysocolla associated with a gangue of garnet, calcite and quartz. The deposit occurs in a narrow zone in a particularly favorable limestone bed. It will average about 28 inches in width and extends over about 1/3 of the Fulton mining claim.

Eight cut samples were taken by the examining team. The average analysis of these was WO_3 0.14% and Cu 2.87%. The analysis of the samples for copper indicates a small tonnage (approx. 7500 tons) of inferred ore in the form of mixed sulphide and oxide minerals that would be difficult to concentrate and would have no commercial value.

The geologic structure is such that there is no probability of continuing depth.

It is concluded that the tungsten content of all ore which would be discovered would be insignificant. It is further concluded that the size of any copper ore body which might be discovered also would be insignificant. For these reasons the Field Team, Region IV recommends that the subject application for exploration assistance be denied.

We concur in the denial.

W. S. Martin

W. S. Martin, Acting Chief
Iron and Ferro-Alloys Division

JHopkins/foc
6-16-53

cc: Docket
Code 400
Adm. Reading File
Operating Committee

400

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

224 New Customhouse
Denver 2, Colorado

May 29, 1953.

Memorandum

WSM

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2866 (Tungsten), Vearn J. Huffaker, Fulton Prospect, Santa Fe County, New Mexico.

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

for John F. Shea
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-5-53
(date)

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

C O P Y

224 New Customhouse
Denver 2, Colorado

May 29, 1953.

Mr. Vearn J. Huffaker
516 San Francisco Street
Santa Fe, New Mexico

Re: Docket DMEA-2866

Dear Mr. Huffaker:

Reference is made to your application for Government aid on the Parachute, Bail, Fulton and Lucky Fraction.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, 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 tungsten by your proposed exploration program is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Very truly yours,

/s/ JOHN F. SHAW
for W. H. King
Field Team, Region IV

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

HMC:cwm

cc: Administrator, DMEA
WRStorms
RFRobinson
Koschmann (2)
Subject
Chron.

Reviewed by
DMEA OPERATING COMMITTEE
6-5-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

May 29, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2866 (Tungsten), Vearn J. Ruffaker, Fulton Prospect, Santa Fe County, New Mexico.

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

The applicant requested $23,360.00 to rehabilitate and extend an old tunnel.

The engineer concludes that the tungsten content of any ore discovered by this project would be insignificant and he recommends denial of the application.

We concur in this recommendation.

for John F. Shaw
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-5-53
(date)

MINING DIVISION
REGION IV

May 22, 1953

Memorandum

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

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

Subject : Report on Docket DMEA-2366, Vearn J. Huffaker's Fulton Tungsten Prospect, Santa Fe County, N. Mex.

Enclosed is a report on the above property by W. R. Hardwick of the Bureau of Mines. R. F. Robinson of the Geological Survey also examined this prospect and approves Hardwick's report although he will not submit a separate report on the geology.

The examiner concludes that as the amount of tungsten in the prospect is very small and the mixed copper sulphide-oxide ore is too low grade to be a direct smelting ore, the project does not warrant a loan. I concur with his recommendations.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC: W. H. King (3)
R. F. Robinson
DMEA-2366
DF

WRStorms:als

Reviewed by
DMEA OPERATING COMMITTEE
6-5-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA-2866, Vearn J. Huffaker's Fulton Tungsten Prospect

New Placer Mining District

Santa Fe County, New Mexico

William R. Hardwick, Mining Engineer
U. S. Bureau of Mines

May 1953

Reviewed by
DMEA OPERATING COMMITTEE
6-5-53
(date)

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By W. R. Hardwick 1/

The Fulton tungsten prospect is located in the New Placers Mining District, Santa Fe County, N. Mex. Vearn J. Huffaker has leased the property from Samuel Padilla and Cesario Ortiz of Santa Fe, who are the owners, and has made an application to the Defense Minerals Exploration Administration (Docket DMEA-2866) for Government assistance to explore the prospect for tungsten. No tungsten has been produced from the district although it is known to occur in the old San Pedro Mine, one mile to the south, and in the Cunningham Hill area, three miles to the north.

The applicant outlined an exploration project which he described as rehabilitating 230 feet of old tunnel at $12.00 per foot and driving 800 feet of new drift at $25.75 per foot. His estimated total cost was $23,360.00.

An examination in the field showed that the proposed project would consist of repairing 230 feet of shaft, inclined at ten degrees, sinking an additional 300 feet of inclined shaft and winze, driving 300 feet of raise, and driving 200 feet of drift. An estimate of the probable costs of the project indicated that the total cost would be $42,900.00, instead of $23,360.00 as proposed by the applicant.

The deposit is a contact metamorphic of thin tabular form. It lies between, and in sedimentary beds on the point of a high ridge. The geological structure is such that there is no probability of continuing depth.

1/ Mining Engineer, U. S. Bureau of Mines

The applicant has presented no chemical analyses showing the mineral content. By the use of a mineral lamp, he has estimated the tungsten content to be from 0.50 to 5.00 percent. Analysis of samples taken by the examining engineer indicates that the tungsten content will be from 0.01 to 0.37 percent, with an average of 0.14 percent tungsten oxide.

The analysis of the samples for copper indicates a small tonnage of inferred ore with a grade of 3.8 percent copper. At most, 7,500 tons of expected inferred ore would be proven by the proposed project. This tonnage is insignificant as the copper is in both sulfide and oxide minerals and would be difficult to concentrate. Copper ore of this grade could not be economically shipped to a smelter from this prospect.

It is concluded that the tungsten content of all ore which would be discovered would be insignificant. It is further concluded that the size of any copper ore body which might be discovered also would be insignificant. It is recommended that the request (DMEA Docket 2866) for Government assistance in the proposed exploration work be denied.

DMEA-2366, VEARN J. HUFFAKER'S FULTON TUNGSTEN PROSPECT
NEW PLACER MINING DISTRICT
SANTA FE COUNTY, NEW MEXICO

Engineering Report

By William R. Hardwick,
Mining Engineer
U. S. Bureau of Mines

May 1953

DMEA-2866, WEARE J. HUFFAKER'S FULTON TUNGSTEN PROSPECT
NEW PLACER MINING DISTRICT
SANTA FE COUNTY, NEW MEXICO

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INTRODUCTION

Vearn J. Huffaker leased the Fulton tungsten prospect from the owners, Samuel Padilla and Cesario Ortiz of Santa Fe, New Mex., and on January 15, 1953 applied to the Defense Minerals Exploration Administration for Government assistance under the Defense Production Act of 1950, as amended, to explore the property for tungsten. The application, Docket DMEA-2866, proposed rehabilitating 230 feet of old workings and driving 800 feet of new exploratory work at a total cost which the operator estimated would be $23,360.00.

Additional information was required and on January 23, 1953 a field examination was requested by the DMEA Field Team of Region IV. Messrs. L. L. Farnham and W. R. Hardwick, who were in Santa Fe County on other official duties, on March 10, 1953 attempted to visit the property. They contacted the applicant but were informed by him that it was impossible to reach the prospect because of snow and muddy roads.

On March 31, 1953, the property was visited and examined by W. R. Hardwick who was accompanied at the time by Vearn J. Huffaker, the applicant. All outcrops reported to carry tungsten were observed and the underground workings, that were accessible, were entered and examined with an ultra-violet lamp. Nine samples were taken of which eight were channel samples across the thickness of the ore body. One sample was taken from the dump.

On April 2, 1953, a 25-ton mill which is located in Golden, N. Mex., and which belongs to the applicant was visited. Samples were

taken of a tungsten concentrate and a copper concentrate which the applicant stated had been made from dump material taken from the Fulton claim. The proposed exploration program was discussed with the applicant at this time.

ACKNOWLEDGMENTS

Acknowledgment is made of information and assistance given by the applicant, Vearn J. Ruffaker. Information and material on the district has been taken from previous reports on the San Pedro Mine by engineers of the U. S. Bureau of Mines and the Geological Survey.

Most of the Geology has been taken from a reconnaissance map by J. F. Smith and A. H. Wadsworth[1/] of the Geological Survey.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The Fulton tungsten prospect is located approximately two miles east of the town of Golden, Santa Fe County, N. Mex., and one mile north of the old San Pedro copper mine. The north boundary of the property is common to the south boundary of the Curtis Mineral Grant. The claims lie primarily in the northwest corner of Sec. 22, T. 12, N., R. 7 E.,

The property is reached by turning east off of New Mexico State Highway No. 10 at the post office in Golden and following an unimproved road two miles to the prospect. The last half mile of the road is passable only by jeep.

The prospect is situated on the point of a high ridge which trends north from the San Pedro Mountains as shown on the San Pedro

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1/ Smith, J. F., Wadsworth, A. H., Cooper, J. R., Wissenborn, A. E., San Pedro and Carnahan Mines, New Placer Mining District, Santa Fe County, New Mexico., U. S. Geol. Surv. Open File Report, 1945.

Quadrangle map of the Geological Survey. The altitude varies from 7,000 to 8,000 feet, and the topography is moderately rugged.

Vegetation consists of cedar, pinon pine, and some yellow pine. Some timber suitable for mining use has been cut in the past, but little remains.

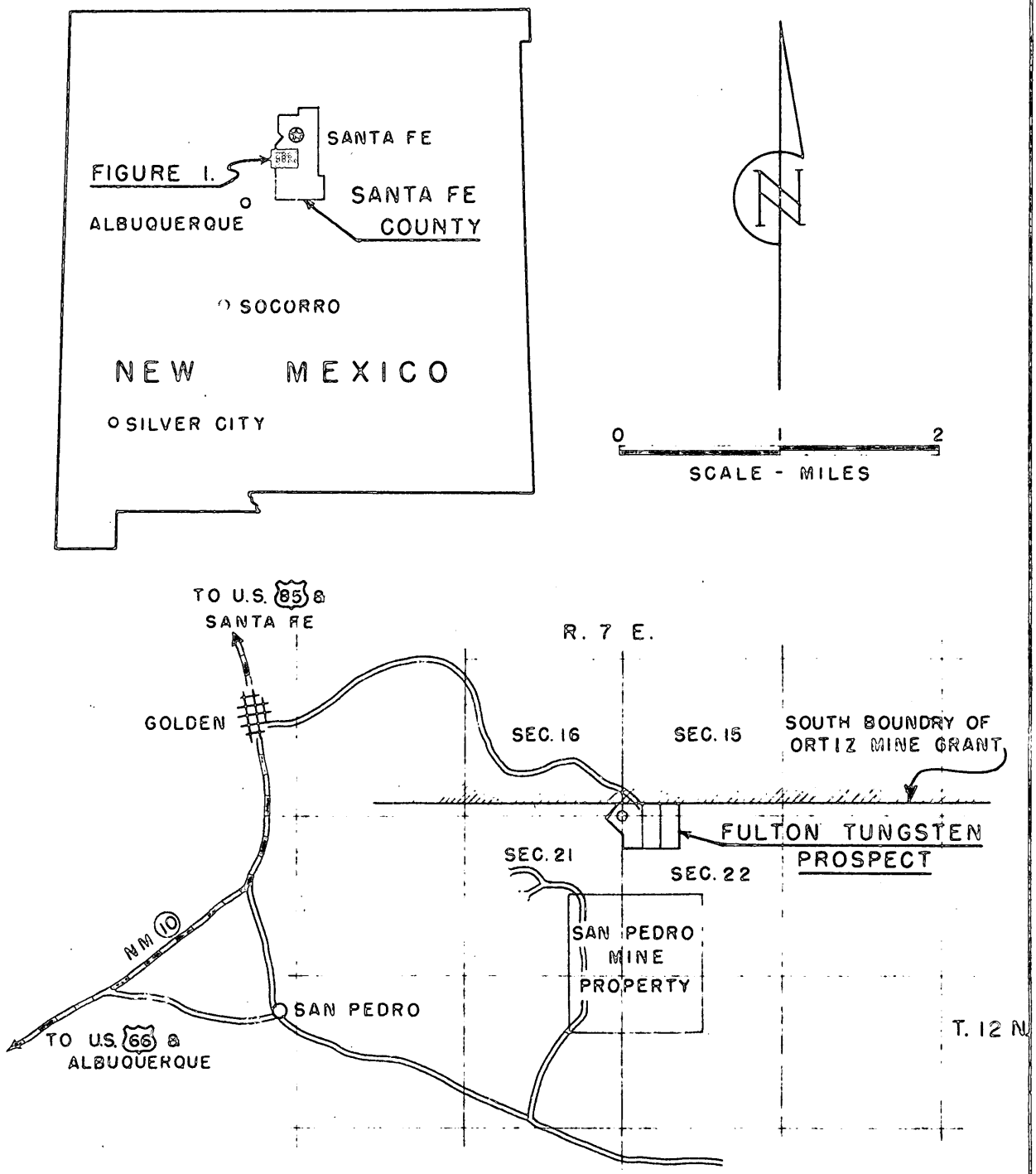
Precipitation averages about 20 inches per year. Winter snows usually are not severe. Temperature may vary from a high of 95 degrees in summer to a low of zero or below in winter. There are no permanent streams in the area. Wells supply water for stock and nearby ranches as well as for domestic use in the town of Golden.

There are no buildings on the property. Limited housing is available in Golden about two miles west of the prospect. The main line of the Santa Fe Railroad passes through Cerrillos, about 18 miles northeast of the claims. Major mining supplies are available in Albuquerque, 36 miles away by state highway. Postal service is available in Golden.

HISTORY AND PRODUCTION

The property is reported to have been worked for gold more than a hundred years ago. Some of the small gold deposits of the type described by Yung & McCaffery[2/] in 1903 occur in the immediate vicinity and one such deposit occurs on the property. It is reported to have produced some gold ore. Some placer gold is reported to have been recovered from the arroyo on the Bail claim just west of the ridge on which the tungsten deposit is situated.

2/ Yung, W. B., and McCaffery, R. S., Trans. A.I.M.E. Vol. 33, 1903, pp. 350-362.



APRIL, 1953

DMEA 2866

FIGURE 1.- LOCATION MAP - FULTON TUNGSTEN PROSPECT

SANTA FE COUNTY, NEW MEXICO

The 230-foot inclined shaft is in mineralized material and at several points has been widened. The applicant has been told that, from the material removed, two cars of ore were shipped to a copper smelter. No record of this shipment was available.

The San Pedro Mine, one mile south of the Fulton tungsten prospect, is reported to have produced 12,848,550 pounds of copper, 11,170 ounces of gold, and 172,893 ounces of silver from 233,666 tons of ore during the years 1904 through 1941. 3/ No tungsten production has been reported for the district, although some tungsten is known to occur in the San Pedro mine.

Three miles north of the applicant's property in the Cunningham Hill tungsten area, exploration work under DMA indicated an estimated 17,500,000 tons of potential ore containing 1.23 pounds of tungsten oxide and 73 cents gold per ton. 4/

OWNERSHIP AND EXTENT

The property that the applicant proposes to explore consists of three mining claims, the Bail, Fulton, and Parachute, together with a part of a fourth claim, the Lucky Fraction. These claims are recorded in Santa Fe County, Book 5, pages 628, 629 and 630, Mining Records of said county. The property is currently owned by Samuel Padilla and Cesario Ortiz of Santa Fe, N. Mex., who have signed the "Owners Consent to Lien" form for the purpose of the requested Government assistance. Vearn J. Huffaker, applicant, has a lease with option to buy from the owners.

3/ Smith, J. F. and others, work cited.
4/ Final report, DMA-1387X, Contract Idm-E310, Potter & Sims, Cunningham Hill Tungsten Area, Ortiz Mine Grant, Santa Fe County, N. Mex., by John H. Soule'.

DESCRIPTION OF THE DEPOSIT

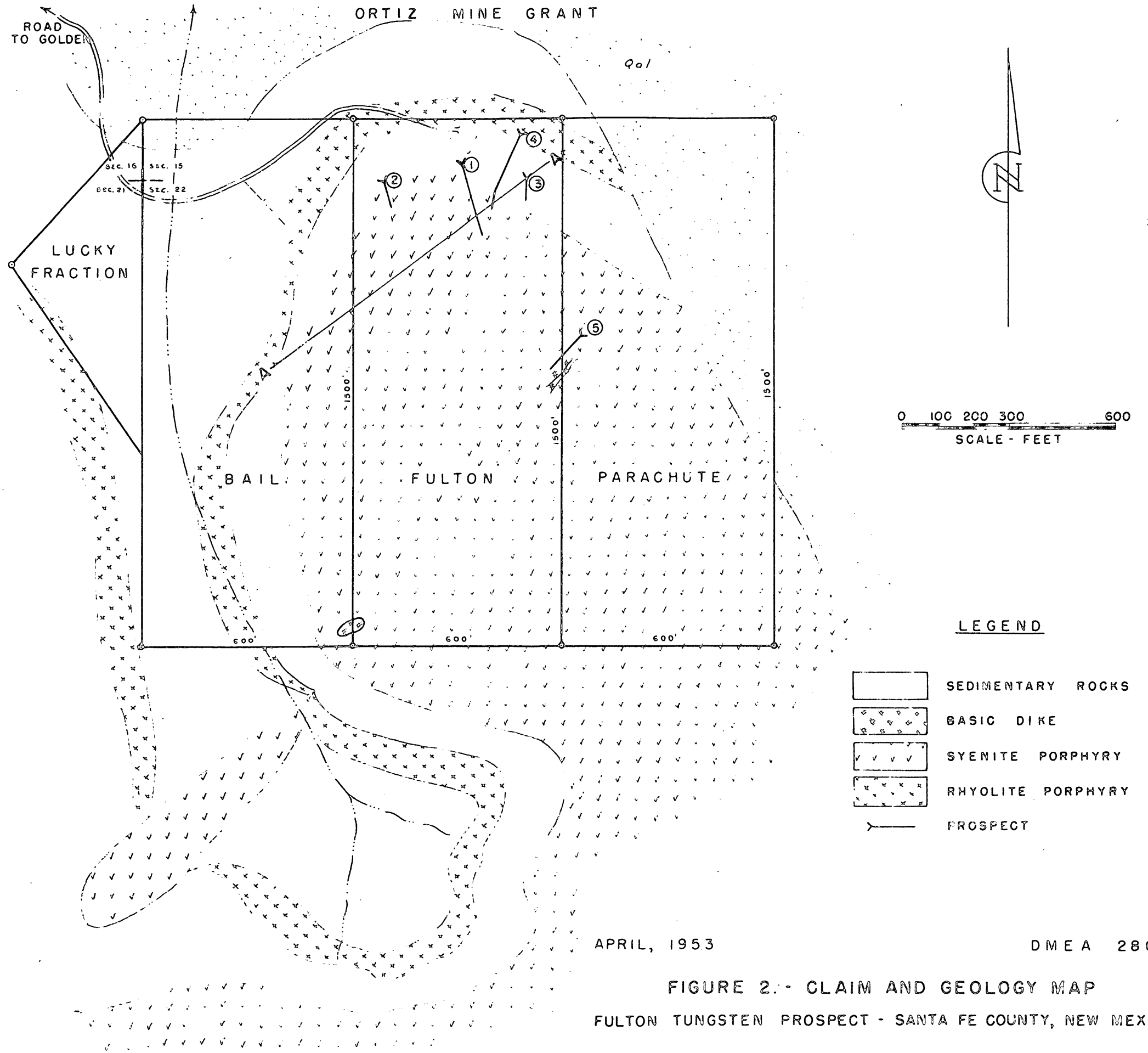
The rocks exposed in the New Placers Mining District are primarily beds of limestone and shale that have been classified as belonging to the Magdalena Group of Pennsylvanian age. These beds have been intruded by a syenite porphyry laccolith and by irregular rhyolite porphyry sills. The regional dip of the beds is 6 to 20 degrees to the southeast. However this dip is influenced locally by the syenite laccolith. At the Fulton tungsten prospect the beds strike almost south and dip approximately 15 degrees to the east.

The block in which the Fulton tungsten deposit has been formed rests high on the point of a northward trending ridge which juts out from the main mass of the San Pedro Mountains. It probably does not extend over an area of more than one third of the Fulton claim.

The ore minerals of copper are chalcopyrite, malachite, azurite, and chrysocolla. The tungsten mineral is scheelite. The ore minerals are associated with a gangue of garnet, calcite and quartz. The oxidation is quite extensive although in places unoxidized portions of the mineralized zone exist.

The ore is limited laterally in the bed by assay value, and if the ore body is continuous, it will be limited in length by the outcrop of the beds at the surface. The thickness of the mineralized zone varies from six inches to four feet. The average of eight measurements was 28 inches. The deposit closely resembles that of the San Pedro Mine, one mile to the south, which is described as a contact metamorphic deposit by Lindgren.[5/]

5/ Lindgren, Waldmar; Mineral Deposits, 1933.



APRIL, 1953

DMEA 2866

FIGURE 2.- CLAIM AND GEOLOGY MAP

FULTON TUNGSTEN PROSPECT - SANTA FE COUNTY, NEW MEXICO

The ore body is postulated to extend roughly parallel to the structure which limits the southward extension of the favorable beds. This ore body will be limited on the east and west by the outcrop of the beds with the surface. It is believed that no ore will be found south of the bottom of the present inclined drift No. 1. This is indicated by the low mineral content of samples Nos. 1 & 2 in the bottom of this drift, and by the fact that no float, showing scheelite, is found beyond or south of the intersection of this trend line with the surface on both the east and west sides of the ridge.

ORE RESERVES

A total of 11 samples were taken at the Fulton tungsten property. The location of these samples, with the exception of the two taken at the concentrating plant in Golden, are shown on figure 3. All samples are listed in the table below. Based on these samples, the ore reserves were computed.

Samples from Ore body

Sample No.	Width	Percent WO_3	Percent Cu
1	33 inches	0.01	0.15
2	48 "	0.01	1.05
3	24 "	0.10	4.25
4	24 "	0.23	7.84
5	36 "	0.37	0.99
6	30 "	0.12	0.07
7	6 "	0.24	0.02
8	6 "	0.07	2.62
Average	28 inches	0.14	2.87

Sample from Dump

9	———	0.04	2.10

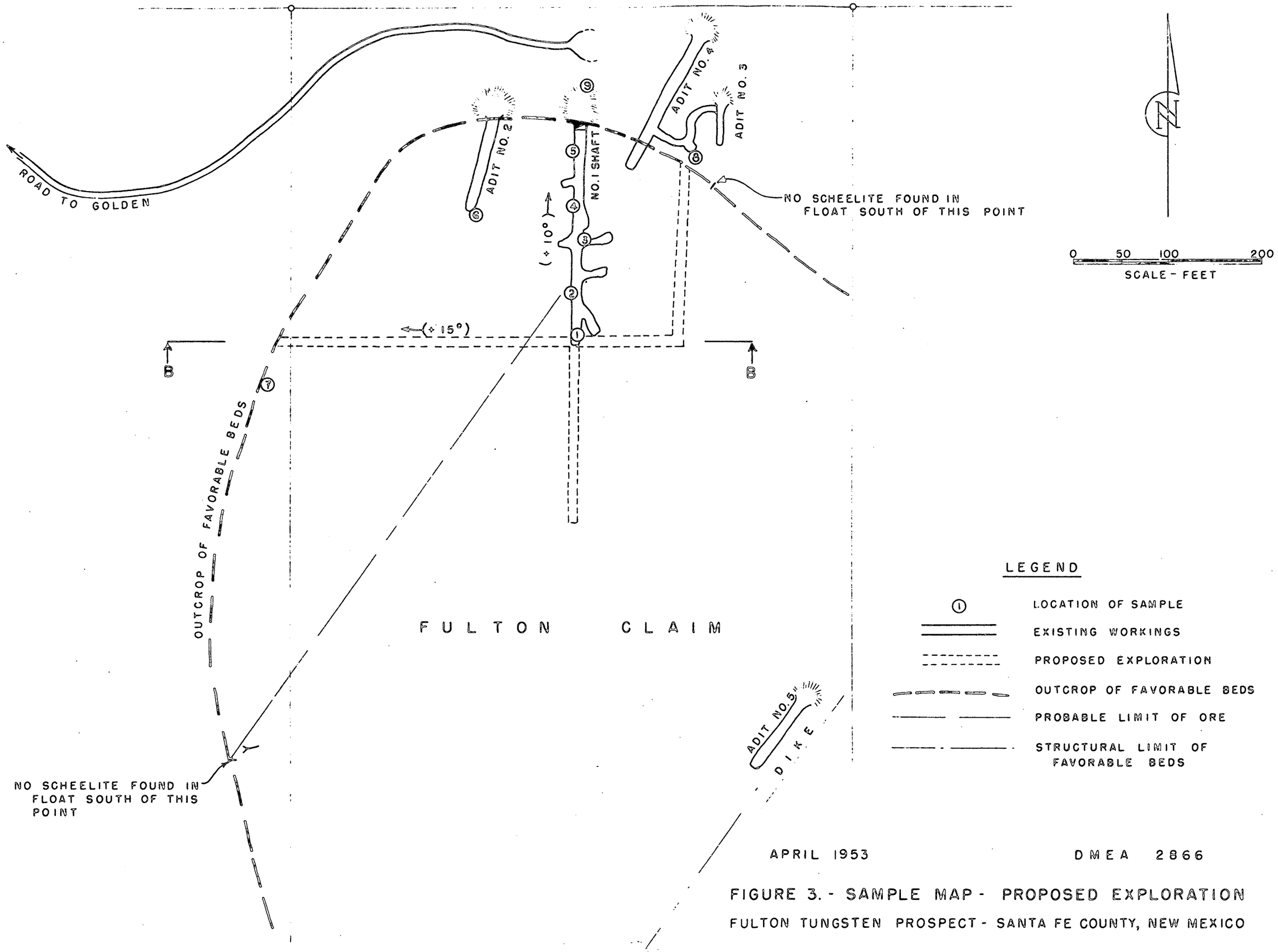


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FIGURE 3. - SAMPLE MAP - PROPOSED EXPLORATION

FULTON TUNGSTEN PROSPECT - SANTA FE COUNTY, NEW MEXICO

Samples from Concentrating Plant

	Percent WO_3	Percent Cu
Copper Concentrate	0.48	6.15
Tungsten Concentrate	15.37	8.89

Measured Ore Reserves

There are no measured ore reserves.

Indicated Ore Reserves

A depth of 25 feet on each side of the No. 1 inclined shaft is assumed at the same grade indicated by an average of samples No. 3, 4, and 5. On this basis, 800 tons of ore, containing 0.24 percent tungsten and 6.36 percent copper, are indicated.

Inferred Ore Reserves

An ore body with axis parallel to the indicated structural limit to the south is postulated. Assuming that thickness and assay value conform to an average of Samples No. 3, 4, 5, 6, and 7 in this area, 7,500 tons of ore, containing 0.21 percent tungsten and 3.83 percent copper, are inferred.

PRESENT STATUS

The Fulton tungsten prospect has been explored for gold and copper by five openings, as shown on figure 3. These workings are as follows:

No. 1. The principal opening which the applicant calls, "No. 1 incline tunnel" is an inclined drift or shaft which follows the plane of the mineralized zone to the south at an inclination of 10 degrees. This drift is 230 feet deep along the plane of the deposit and is untimbered. It has been widened at places and at other points short

crosscuts have been driven into the mineralized zone. The footwall is limestone and the hanging wall is sandstone. The condition is fair but the drift would require some timber and cleaning, before it could be used as a working entry.

No. 2. This opening is an adit which enters the point of the ridge at a place approximately 150 feet west of No. 1 drift. This adit has been driven into the mineralized zone.

No. 3. This opening is an adit located approximately 75 feet to the east and below the No. 1 drift. It has been driven into the mineralized zone.

No. 4. North and below No. 1 drift, an adit has been driven into the point of the ridge. This adit enters a rhyolite porphyry sill and from it some raising and stoping have been done on a narrow gold vein.

No. 5. Six hundred feet southeast of No. 1 drift, an adit has been driven to the west into the ridge along a basic dike to explore for copper.

Of the five openings observed, three were driven to explore the mineralized zone which the applicant now proposes to explore for tungsten, one was driven along the basic dike to explore for copper, and one was driven into the porphyry sill to explore for gold.

There is no equipment on the property. The applicant stated that he had been engaged in other activities, but that now he intended to devote full time to the exploration of the Fulton tungsten prospect.

The applicant owns a concentrating plant, consisting of a crusher, a Huntington grinding mill, and a Gibson concentrating table. This

mill is located in Golden. In it, the applicant expects to make a marketable tungsten concentrate and a copper concentrate from the ore which he expects to remove during the proposed exploration work. Samples indicate that this plant will make a tungsten concentrate containing 15.87 percent tungsten and 8.89 percent copper, and a copper concentrate containing 0.48 percent tungsten and 6.15 percent copper from ore that has been upgraded by sorting. The applicant stated that the tungsten concentrate has been valued at $39.00 per unit of WO_3 at Bishop, Calif. This low value is the result of penalty for copper.

PROPOSED EXPLORATION AND COSTS

The applicant proposed to rehabilitate the inclined drift shown as No. 1, figure 3. From the bottom of No.1drift the applicant proposed to drive a raise in the plane of the mineralized zone to daylight on the west side of the ridge. He then proposed to sink a winze eastward in ore until he reached the east edge of the ore zone. This he presumed is faulted at between 50 and 100 feet. From the bottom of this winze, the applicant proposed to drift northward to daylight. Finally, the applicant proposed to sink No. 1 inclined drift an additional 200 feet in the mineralized plane.

The applicant has divided the proposed exploration work into two categories, rehabilitating the old drift, and new drifting. He has proposed an estimated cost as follows:

Rehabilitating old drift, 230 feet.

Labor	$8.50 per foot	
Material	3.50 " "	
Estimated cost per foot, $12.00, or 230 feet, ...		$ 2,760.00

New Drifting, 800 feet.

Labor	$17.25	
Material	8.50	
Estimated cost per foot	$25.75, or 800 feet, ...	$20,600.00

Total estimated cost of project $23,360.00

The above costs, the applicant indicated, would include labor, supervision, engineering and geological consultants, repairs to operating equipment, analytical work, accounting, workmen's compensation, employer's liability tax, payroll tax, gasoline, oil, power, timber, and track. The applicant stated that he expected to provide the necessary equipment at his own expense.

In order to check the applicant's proposed costs, an estimate of probable costs has been made with the following reasoning. An advance of two feet per shift for sinking and three feet per shift for raising and drifting is assumed. The existing inclined drift and one-half of the new work will require timber. Operating equipment and any buildings will be furnished by the applicant.

Based on the above assumptions, the following estimate of the proposed work is developed.

Independent contracts: None.

Labor, supervision, consultants:

Labor (324 shifts)			
2 Miners @ $14	$ 28		
2 Muckers @ $10	20		
1 Truck driver @ $12 ..	12		
1 Foreman @ $16	16	$24,624.00	
Part time geologist and accountant		750.00	$25,374.00

Operating materials and supplies:
Water & air pipe, hose, drill steel, drill bits, gasoline, oil, explosives, ventilation pipe, rail & timber ..... $ 8,472.00

Operating Equipment:

To be furnished by applicant at no cost to contract.

Rehabilitation and repairs:
Rehabilitate inclined drift (or shaft) (230 ft. @ $20.50) ..... $ 4,715.00

New buildings, improvements, installations: None.

Miscellaneous:
Assay work
80 tungstens @ $5.00 ..... $ 400.00
Taxes
Workmens compensation (9%)..... 2,361.00
Employers liability Ins. (3%).. 787.00
Payroll tax (1½%) 394.00
Contingencies ..... 397.00 ..... $ 4,339.00

Total estimated cost $42,900.00

Government's participation at 75% .. $32,175.00

Summarizing the above and extending totals, the following comparison is developed.

Item	Applicant's Estimate	New Estimate
Rehabilitate inclined shaft	$ 2,760.00	$ 4,715.00
New work	20,600.00	38,185.00
Total estimated cost	$23,360.00	$42,900.00

In comparing the two estimates, two items account for most of the large difference. First, a reclassification of the proposed new work into the catagories of sinking and raising; and second, the inclusion of several items, i.e., provision for track, ventilation, engineering,

and taxes, which it is believed were not adequately provided for by the applicant. In addition, the anticipated wage rate has been increased over that used by the applicant, who indicated that he thought labor could be attracted at a rate of $1.00 per hour.

The work as outlined by the applicant will require approximately 15 months. All of the work which the applicant proposes to do on the east side of the existing No. 1 inclined drift would seem to be for the dual purpose of exploration and development. The small tonnage which could be proven by this work is insignificant.

ECONOMIC SUMMARY OF PROJECT

The expected ore, with a tungsten content of 0.21 percent and a copper content of 3.83 percent, would have an apparent value of $36.63 per ton. Of this value the tungsten accounts for $13.65, while the copper accounts for $22.98. In order to market the tungsten it would be necessary that it be concentrated. If this were done in the applicant's mill a recovery of not more than 50 percent could be expected. The concentrate made in the applicant's mill would contain copper for which a penalty would be assessed. The applicant stated that he had been quoted a price of $39.00 per unit for his tungsten concentrates. At this price, the recoverable value of tungsten would be $4.10 per ton of ore and all copper would be lost.

In view of the high copper content of some samples, it seems worth while to investigate the possibility that exploration of the property would be justified as a copper prospect. The inferred size of the ore body is obviously too small to justify a concentrating plant. The

copper recovery in the applicant's existing mill is very bad as indicated by the samples of his concentrates.

For the purpose of investigating direct shipment to a smelter, it is assumed that the only exploration necessary would be rehabilitating the existing No. 1 inclined drift or shaft at an estimated cost of $5,000.00, and driving a 300 foot raise to the west to daylight at an estimated cost of $35.00 per foot, or $10,500.00. This would add up to a total cost of $15,500.00, for which an inferred 7,500 tons of ore would have to be discovered. This is $2.67 per ton. Adding to this a charge for development, mining, transportation, and smelting, and taking into consideration the reduction in value of the ore by dilution, a cost exceeding the total value of the copper in the ore is indicated even at the present price of 30 cents per pound for copper.

CONCLUSIONS

The total tungsten content of the inferred ore is so small and the grade of the ore is so low that the property is of no importance as a possible tungsten deposit.

The larger part of the copper is in the form of oxide and carbonate minerals that are not easily concentrated. The indicated copper content of the ore is not high enough to realize a profit from sale directly to a smelter.

The possible ore body is too small to justify the construction of a concentrating plant that would recover the valuable minerals in a marketable product. The existing plant owned by the applicant is not suitable.

The applicant has evaluated the deposit by observation with a mineral light and has not checked sufficiently by chemical analysis. The tungsten content is much less than the applicant estimates.

The applicant has not included all items of cost in his estimate and the actual cost of his project would probably be much more than he has indicated

It is believed that any ore body of either copper or tungsten that would be discovered by the proposed exploration would be insignificant.

RECOMMENDATIONS

In view of the insignificant amount of tungsten and the small size of the inferred deposit, it is recommended that the application (MEA-2366) for Government aid to explore the Fulton tungsten prospect be denied.

FILE COPY
SURNAME:

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

Hopkins
Hearing
Partridge

JUN 17 1953

N.S. in R.v.R.

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of Application by Field Team, Region IV
Docket No. DMEA-2866 - Tungsten
Vearn J. Huffaker
Fulton Prospect
Santa Fe County, New Mexico

The applicant requested exploration assistance in the amount of $23,360.00 to explore a tungsten-bearing deposit on the property of the Fulton Prospect, Santa Fe County, New Mexico.

The rocks exposed in this area are primarily beds of limestone and shale that have been intruded by a syenite porphyry laccolith and by irregular porphyry sills.

The tungsten deposit has been described by Lindgren as contact metamorphic. In addition to scheelite, other ore minerals are chalcopyrite, malachite, azurite and chrysocolla associated with a gangue of garnet, calcite and quartz. The deposit occurs in a narrow zone in a particularly favorable limestone bed. It will average about 28 inches in width and extends over about 1/3 of the Fulton mining claim.

Eight cut samples were taken by the examining team. The average analysis of these was WO_3 0.14% and Cu 2.87%. The analysis of the samples for copper indicates a small tonnage (approx. 7500 tons) of inferred ore in the form of mixed sulphide and oxide minerals that would be difficult to concentrate and would have no commercial value.

The geologic structure is such that there is no probability of continuing depth.

It is concluded that the tungsten content of all ore which would be discovered would be insignificant. It is further concluded that the size of any copper ore body which might be discovered also would be insignificant. For these reasons the Field Team, Region IV recommends that the subject application for exploration assistance be denied.

We concur in the denial.

W. S. Martin, Acting Chief
Iron and Ferro-Alloys Division

JHopkins/foc
6-16-53

cc: Docket
Code 400
Adm. Reading File
Operating Committee

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

JUN 17 1953

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Denial of Application by Field Team, Region IV
Docket No. DMEA-2866 - Tungsten
Vearn J. Huffaker
Fulton Prospect
Santa Fe County, New Mexico

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We concur in the denial.

W S Martin

W. S. Martin, Acting Chief
Iron and Ferro-Alloys Division

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

BL

224 New Customhouse
Denver 2, Colorado

May 29, 1953.

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Field Team, Region IV

Subject: Final Report, DMEA Docket 2866 (Tungsten), Vearn J. Huffaker, Fulton Prospect, Santa Fe County, New Mexico.

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

for John F. Shaw
W. H. King

A. H. Koschmann
A. H. Koschmann

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-5-53
(date)

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

224 New Customhouse
Denver 2, Colorado

May 29, 1953.

Mr. Vearn J. Huffaker
516 San Francisco Street
Santa Fe, New Mexico

Re: Docket DMEA-2866

Dear Mr. Huffaker:

Reference is made to your application for Government aid on the Parachute, Bail, Fulton and Lucky Fraction.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite premise 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 tungsten by your proposed exploration program is not considered sufficiently promising to justify Government participation. Under these circumstances, we regret to advise that your application for exploration aid is denied.

Very truly yours,

for John F. Walker
W. H. King
Field Team, Region IV

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

HMC:cwm

cc: Administrator, DMEA
WRStorms
RFRobinson
Koschmann (2)
Subject
Chron.

Reviewed by
DMEA OPERATING COMMITTEE
6-5-53
(date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mining Division
Region IV

May 29, 1953.

Memorandum

To: Field Team, Region IV

From: Chief, Mining Division, Region IV

Subject: Final Report, DMEA Docket 2866 (Tungsten), Vearn J. Muffaker, Fulton Prospect, Santa Fe County, New Mexico.

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

The applicant requested $23,360.00 to rehabilitate and extend an old tunnel.

The engineer concludes that the tungsten content of any ore discovered by this project would be insignificant and he recommends denial of the application.

We concur in this recommendation.

for John F. Shaw
W. H. King

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
6-5-53
(date)

MINING DIVISION
REGION IV

May 22, 1953

Memorandum

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

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

Subject : Report on Docket DMEA-2866, Vearn J. Huffaker's Fulton Tungsten Prospect, Santa Fe County, N. Mex.

Enclosed is a report on the above property by W. R. Hardwick of the Bureau of Mines. R. F. Robinson of the Geological Survey also examined this prospect and approves Hardwick's report although he will not submit a separate report on the geology.

The examiner concludes that as the amount of tungsten in the prospect is very small and the mixed copper sulphide-oxide ore is too low grade to be a direct smelting ore, the project does not warrant a loan. I concur with his recommendations.

Brochure is enclosed.

Walter R. Storms

Walter R. Storms

CC: W. H. King (8)
R. F. Robinson
DMEA-2866
DF

WRStorms:als

Referred to
DMEA [illegible]
6-5-53
(Date)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGALS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION IV

DMEA-2866, Vearn J. Huffaker's Fulton Tungsten Prospect

New Placer Mining District

Santa Fe County, New Mexico

William R. Hardwick, Mining Engineer
U. S. Bureau of Mines

May 1953

Received by
DMEA ORIGINAL CONTROL
Date 6-5-53

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

By W. R. Hardwick[1/]

The Fulton tungsten prospect is located in the New Placers Mining District, Santa Fe County, N. Mex. Vearn J. Huffaker has leased the property from Samuel Padilla and Cesario Ortiz of Santa Fe, who are the owners, and has made an application to the Defense Minerals Exploration Administration (Docket DMEA-2866) for Government assistance to explore the prospect for tungsten. No tungsten has been produced from the district although it is known to occur in the old San Pedro Mine, one mile to the south, and in the Cunningham Hill area, three miles to the north.

The applicant outlined an exploration project which he described as rehabilitating 230 feet of old tunnel at $12.00 per foot and driving 800 feet of new drift at $25.75 per foot. His estimated total cost was $23,360.00.

An examination in the field showed that the proposed project would consist of repairing 230 feet of shaft, inclined at ten degrees, sinking an additional 300 feet of inclined shaft and winze, driving 300 feet of raise, and driving 200 feet of drift. An estimate of the probable costs of the project indicated that the total cost would be $42,900.00, instead of $23,360.00 as proposed by the applicant.

The deposit is a contact metamorphic of thin tabular form. It lies between, and in sedimentary beds on the point of a high ridge. The geological structure is such that there is no probability of continuing depth.

1/ Mining Engineer, U. S. Bureau of Mines

The applicant has presented no chemical analyses showing the mineral content. By the use of a mineral lamp, he has estimated the tungsten content to be from 0.50 to 5.00 percent. Analysis of samples taken by the examining engineer indicates that the tungsten content will be from 0.01 to 0.37 percent, with an average of 0.14 percent tungsten oxide.

The analysis of the samples for copper indicates a small tonnage of inferred ore with a grade of 3.8 percent copper. At most, 7,500 tons of expected inferred ore would be proven by the proposed project. This tonnage is insignificant as the copper is in both sulfide and oxide minerals and would be difficult to concentrate. Copper ore of this grade could not be economically shipped to a smelter from this prospect.

It is concluded that the tungsten content of all ore which would be discovered would be insignificant. It is further concluded that the size of any copper ore body which might be discovered also would be insignificant. It is recommended that the request (DMEA Docket 2866) for Government assistance in the proposed exploration work be denied.

DMEA-2866, VEARN J. HUFFAKER'S FULTON TUNGSTEN PROSPECT
NEW PLACER MINING DISTRICT
SANTA FE COUNTY, NEW MEXICO

Engineering Report

By William R. Hardwick,
Mining Engineer
U. S. Bureau of Mines

May 1953

DMEA-2866, VEARN J. HUFFAKER'S FULTON TUNGSTEN PROSPECT
NEW PLACER MINING DISTRICT
SANTA FE COUNTY, NEW MEXICO

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ILLUSTRATIONS

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INTRODUCTION

Vearn J. Huffaker leased the Fulton tungsten prospect from the owners, Samuel Padilla and Cesario Ortiz of Santa Fe, New Mex., and on January 15, 1953 applied to the Defense Minerals Exploration Administration for Government assistance under the Defense Production Act of 1950, as amended, to explore the property for tungsten. The application, Docket DMEA-2866, proposed rehabilitating 230 feet of old workings and driving 800 feet of new exploratory work at a total cost which the operator estimated would be $23,360.00.

Additional information was required and on January 23, 1953 a field examination was requested by the DMEA Field Team of Region IV. Messrs. L. L. Farnham and W. R. Hardwick, who were in Santa Fe County on other official duties, on March 10, 1953 attempted to visit the property. They contacted the applicant but were informed by him that it was impossible to reach the prospect because of snow and muddy roads.

On March 31, 1953, the property was visited and examined by W. R. Hardwick who was accompanied at the time by Vearn J. Huffaker, the applicant. All outcrops reported to carry tungsten were observed and the underground workings, that were accessible, were entered and examined with an ultra-violet lamp. Nine samples were taken of which eight were channel samples across the thickness of the ore body. One sample was taken from the dump.

On April 2, 1953, a 25-ton mill which is located in Golden, N. Mex., and which belongs to the applicant was visited. Samples were

taken of a tungsten concentrate and a copper concentrate which the applicant stated had been made from dump material taken from the Fulton claim. The proposed exploration program was discussed with the applicant at this time.

ACKNOWLEDGMENTS

Acknowledgment is made of information and assistance given by the applicant, Vearn J. Huffaker. Information and material on the district has been taken from previous reports on the San Pedro Mine by engineers of the U. S. Bureau of Mines and the Geological Survey.

Most of the Geology has been taken from a reconnaissance map by J. F. Smith and A. H. Wadsworth[1/] of the Geological Survey.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The Fulton tungsten prospect is located approximately two miles east of the town of Golden, Santa Fe County, N. Mex., and one mile north of the old San Pedro copper mine. The north boundary of the property is common to the south boundary of the Ortiz Mineral Grant. The claims lie primarily in the northwest corner of Sec. 22, T. 12, N., R. 7 E.,

The property is reached by turning east off of New Mexico State Highway No. 10 at the post office in Golden and following an unimproved road two miles to the prospect. The last half mile of the road is passable only by jeep.

The prospect is situated on the point of a high ridge which trends north from the San Pedro Mountains as shown on the San Pedro

---

1/ Smith, J. F., Wadsworth, A. H., Cooper, J. R., Wissenborn, A. E., San Pedro and Carnahan Mines, New Placer Mining District, Santa Fe County, New Mexico., U. S. Geol. Surv. Open File Report, 1945.

Quadrangle map of the Geological Survey. The altitude varies from 7,000 to 8,000 feet, and the topography is moderately rugged.

Vegetation consists of cedar, pinon pine, and some yellow pine. Some timber suitable for mining use has been cut in the past, but little remains.

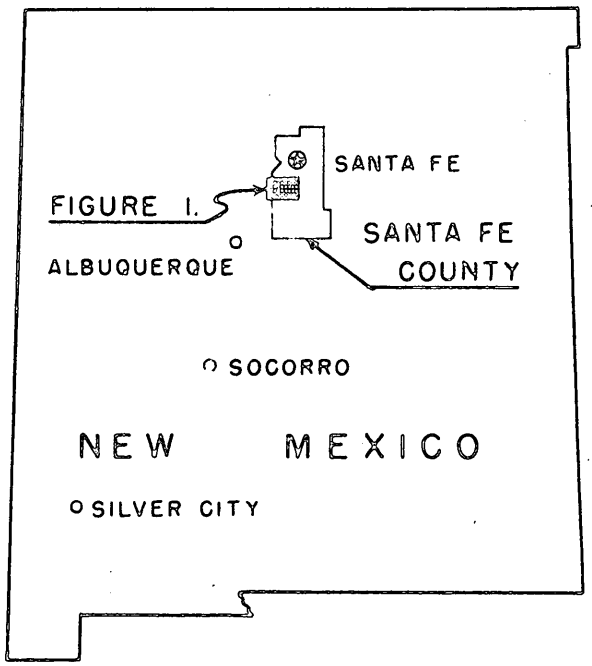
Precipitation averages about 20 inches per year. Winter snows usually are not severe. Temperature may vary from a high of 95 degrees in summer to a low of zero or below in winter. There are no permanent streams in the area. Wells supply water for stock and nearby ranches as well as for domestic use in the town of Golden.

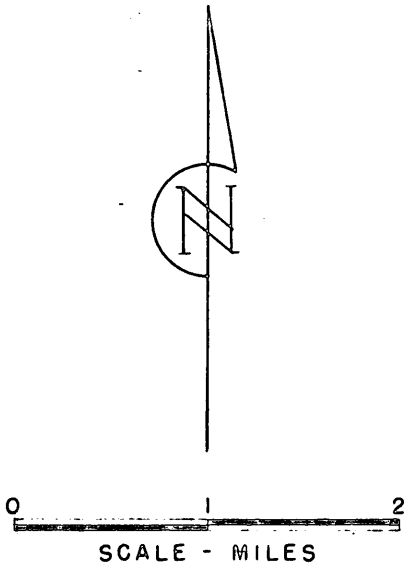
There are no buildings on the property. Limited housing is available in Golden about two miles west of the prospect. The main line of the Santa Fe Railroad passes through Cerrillos, about 18 miles northeast of the claims. Major mining supplies are available in Albuquerque, 36 miles away by state highway. Postal service is available in Golden.

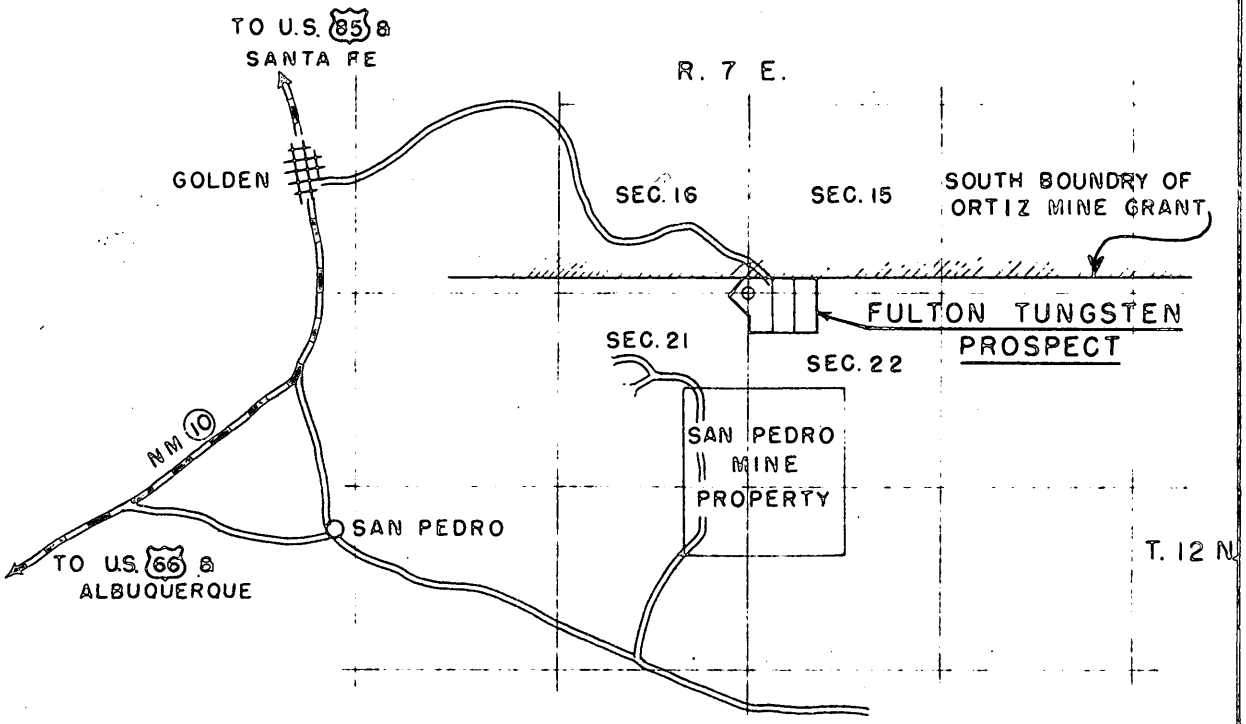
HISTORY AND PRODUCTION

The property is reported to have been worked for gold more than a hundred years ago. Some of the small gold deposits of the type described by Yung & McCaffery[2/] in 1903 occur in the immediate vicinity and one such deposit occurs on the property. It is reported to have produced some gold ore. Some placer gold is reported to have been recovered from the arroyo on the Bail claim just west of the ridge on which the tungsten deposit is situated.

2/ Yung, M. B., and McCaffery, R. S., Trans. A.I.M.E. Vol. 33, 1903, pp. 350-362.







APRIL, 1953

DMEA 2866

FIGURE 1.- LOCATION MAP - FULTON TUNGSTEN PROSPECT

SANTA FE COUNTY, NEW MEXICO

The 230-foot inclined shaft is in mineralized material and at several points has been widened. The applicant has been told that, from the material removed, two cars of ore were shipped to a copper smelter. No record of this shipment was available.

The San Pedro Mine, one mile south of the Fulton tungsten prospect, is reported to have produced 12,848,550 pounds of copper, 11,170 ounces of gold, and 172,893 ounces of silver from 233,666 tons of ore during the years 1904 through 1941.[3/] No tungsten production has been reported for the district, although some tungsten is known to occur in the San Pedro mine.

Three miles north of the applicant's property in the Cunningham Hill tungsten area, exploration work under DMA indicated an estimated 17,500,000 tons of potential ore containing 1.23 pounds of tungsten oxide and 73 cents gold per ton.[4/]

OWNERSHIP AND EXTENT

The property that the applicant proposes to explore consists of three mining claims, the Bail, Fulton, and Parachute, together with a part of a fourth claim, the Lucky Fraction. These claims are recorded in Santa Fe County, Book 5, pages 628, 629 and 630, Mining Records of said county. The property is currently owned by Samuel Padilla and Cesario Ortiz of Santa Fe, N. Mex., who have signed the "Owners Consent to Lien" form for the purpose of the requested Government assistance. Vearn J. Huffaker, applicant, has a lease with option to buy from the owners.

3/ Smith, J. F. and others, work cited.
4/ Final report, DMA-1387X, Contract Idm-E310, Potter & Sims, Cunningham Hill Tungsten Area, Ortiz Mine Grant, Santa Fe County, N. Mex., by John H. Soule'.

DESCRIPTION OF THE DEPOSIT

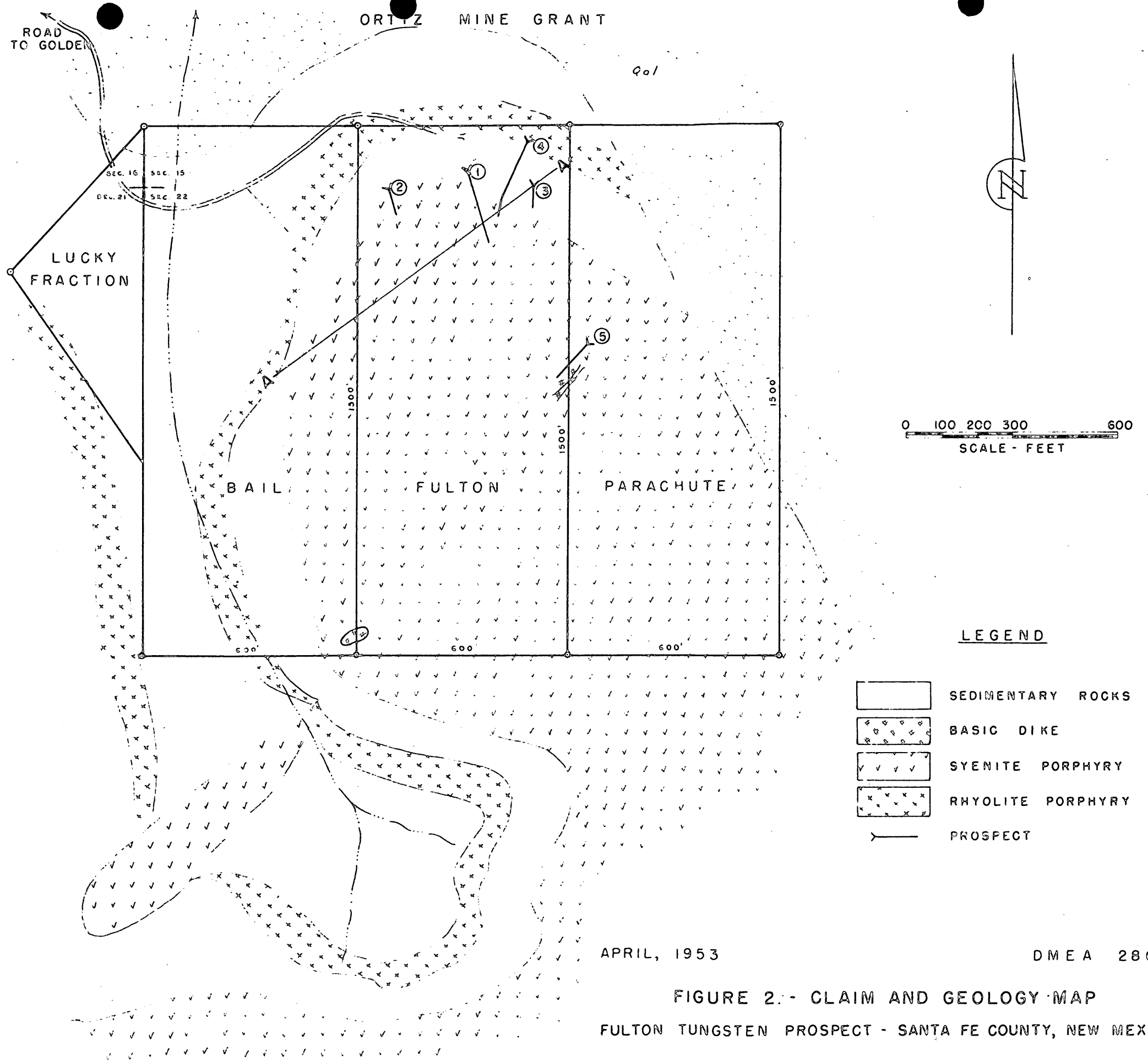
The rocks exposed in the New Placers Mining District are primarily beds of limestone and shale that have been classified as belonging to the Magdalena Group of Pennsylvanian age. These beds have been intruded by a syenite porphyry laccolith and by irregular rhyolite porphyry sills. The regional dip of the beds is 6 to 20 degrees to the southeast. However this dip is influenced locally by the syenite laccolith. At the Fulton tungsten prospect the beds strike almost south and dip approximately 15 degrees to the east.

The block in which the Fulton tungsten deposit has been formed rests high on the point of a northward trending ridge which juts out from the main mass of the San Pedro Mountains. It probably does not extend over an area of more than one third of the Fulton claim.

The ore minerals of copper are chalcopyrite, malachite, azurite, and chrysocolla. The tungsten mineral is scheelite. The ore minerals are associated with a gangue of garnet, calcite and quartz. The oxidation is quite extensive although in places unoxidized portions of the mineralized zone exist.

The ore is limited laterally in the bed by assay value, and if the ore body is continuous, it will be limited in length by the outcrop of the beds at the surface. The thickness of the mineralized zone varies from six inches to four feet. The average of eight measurements was 28 inches. The deposit closely resembles that of the San Pedro Mine, one mile to the south, which is described as a contact metamorphic deposit by Lindgren.[5/]

5/ Lindgren, Waldmar; Mineral Deposits, 1933.



APRIL, 1953

DMEA 2866

FIGURE 2.- CLAIM AND GEOLOGY MAP

FULTON TUNGSTEN PROSPECT - SANTA FE COUNTY, NEW MEXICO

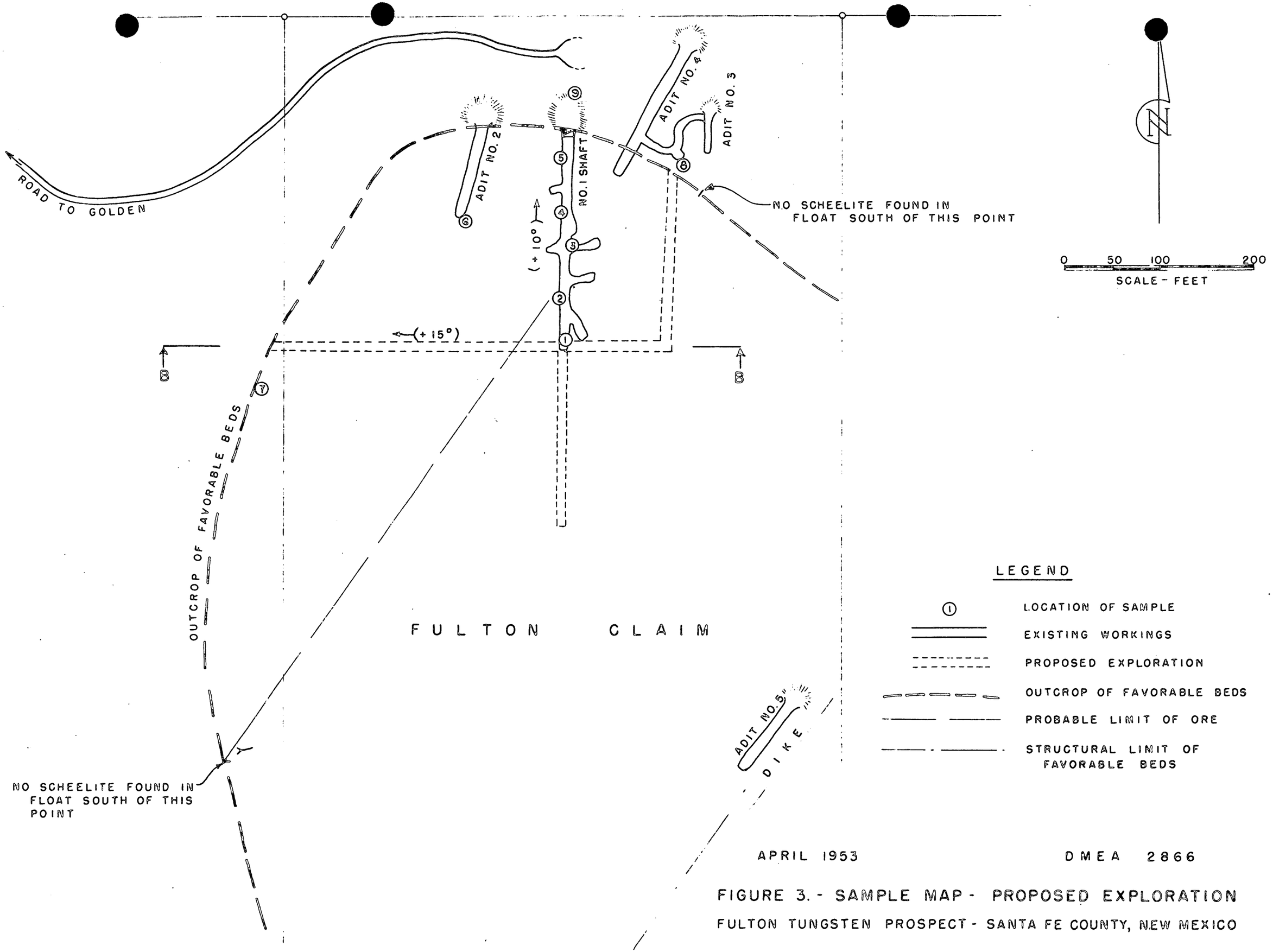
The ore body is postulated to extend roughly parallel to the structure which limits the southward extension of the favorable beds. This ore body will be limited on the east and west by the outcrop of the beds with the surface. It is believed that no ore will be found south of the bottom of the present inclined drift No. 1. This is indicated by the low mineral content of samples Nos. 1 & 2 in the bottom of this drift, and by the fact that no float, showing scheelite, is found beyond or south of the intersection of this trend line with the surface on both the east and west sides of the ridge.

ORE RESERVES

A total of 11 samples were taken at the Fulton tungsten property. The location of these samples, with the exception of the two taken at the concentrating plant in Golden, are shown on figure 3. All samples are listed in the table below. Based on these samples, the ore reserves were computed.

Samples from Ore body

Sample No.	Width	Percent WO_3	Percent Cu
1	33 inches	0.01	0.15
2	48 "	0.01	1.05
3	24 "	0.10	4.25
4	24 "	0.23	7.84
5	36 "	0.37	6.99
6	30 "	0.12	0.07
7	6 "	0.24	0.02
8	6 "	0.07	2.62
Average	28 inches	0.14	2.87
	Sample from Dump		
9	------	0.04	2.10



APRIL 1953 DMEA 2866

FIGURE 3. - SAMPLE MAP - PROPOSED EXPLORATION

FULTON TUNGSTEN PROSPECT - SANTA FE COUNTY, NEW MEXICO

Samples from Concentrating Plant

	Percent WO_3	Percent Cu
Copper Concentrate	0.48	6.15
Tungsten Concentrate	15.87	8.89

Measured Ore Reserves

There are no measured ore reserves.

Indicated Ore Reserves

A depth of 25 feet on each side of the No. 1 inclined shaft is assumed at the same grade indicated by an average of samples No. 3, 4, and 5. On this basis, 800 tons of ore, containing 0.24 percent tungsten and 6.36 percent copper, are indicated.

Inferred Ore Reserves

An ore body with axis parallel to the indicated structural limit to the south is postulated. Assuming that thickness and assay value conform to an average of Samples No. 3, 4, 5, 6, and 7 in this area, 7,500 tons of ore, containing 0.21 percent tungsten and 3.83 percent copper, are inferred.

PRESENT STATUS

The Fulton tungsten prospect has been explored for gold and copper by five openings, as shown on figure 3. These workings are as follows:

No. 1. The principal opening which the applicant calls, "No. 1 incline tunnel" is an inclined drift or shaft which follows the plane of the mineralized zone to the south at an inclination of 10 degrees. This drift is 230 feet deep along the plane of the deposit and is untimbered. It has been widened at places and at other points short

crosscuts have been driven into the mineralized zone. The footwall is limestone and the hanging wall is sandstone. The condition is fair but the drift would require some timber and cleaning, before it could be used as a working entry.

No. 2. This opening is an adit which enters the point of the ridge at a place approximately 150 feet west of No. 1 drift. This adit has been driven into the mineralized zone.

No. 3. This opening is an adit located approximately 75 feet to the east and below the No. 1 drift. It has been driven into the mineralized zone.

No. 4. North and below No. 1 drift, an adit has been driven into the point of the ridge. This adit enters a rhyolite porphyry sill and from it some raising and stoping have been done on a narrow gold vein.

No. 5. Six hundred feet southeast of No. 1 drift, an adit has been driven to the west into the ridge along a basic dike to explore for copper.

Of the five openings observed, three were driven to explore the mineralized zone which the applicant now proposes to explore for tungsten, one was driven along the basic dike to explore for copper, and one was driven into the porphyry sill to explore for gold.

There is no equipment on the property. The applicant stated that he had been engaged in other activities, but that now he intended to devote full time to the exploration of the Fulton tungsten prospect.

The applicant owns a concentrating plant, consisting of a crusher, a Huntington grinding mill, and a Gibson concentrating table. This

mill is located in Golden. In it, the applicant expects to make a marketable tungsten concentrate and a copper concentrate from the ore which he expects to remove during the proposed exploration work. Samples indicate that this plant will make a tungsten concentrate containing 15.87 percent tungsten and 8.89 percent copper, and a copper concentrate containing 0.48 percent tungsten and 6.15 percent copper from ore that has been upgraded by sorting. The applicant stated that the tungsten concentrate has been valued at $39.00 per unit of WO_3 at Bishop, Calif. This low value is the result of penalty for copper.

PROPOSED EXPLORATION AND COSTS

The applicant proposed to rehabilitate the inclined drift shown as No. 1, figure 3. From the bottom of No.1 drift the applicant proposed to drive a raise in the plane of the mineralized zone to daylight on the west side of the ridge. He then proposed to sink a winze eastward in ore until he reached the east edge of the ore zone. This he presumed is faulted at between 50 and 100 feet. From the bottom of this winze, the applicant proposed to drift northward to daylight. Finally, the applicant proposed to sink No. 1 inclined drift an additional 200 feet in the mineralized plane.

The applicant has divided the proposed exploration work into two categories, rehabilitating the old drift, and new drifting. He has proposed an estimated cost as follows:

Rehabilitating old drift, 230 feet.

Labor	$ 8.50 per foot	
Material	3.50 " "	
Estimated cost per foot, $12.00, or 230 feet, ...		$ 2,760.00

New Drifting, 800 feet.

Labor	$17.25	
Material	8.50	
Estimated cost per foot	$25.75, or 800 feet, ...	$20,600.00
Total estimated cost of project		$23,360.00

The above costs, the applicant indicated, would include labor, supervision, enineering and geological consultants, repairs to operating equipment, analytical work, accounting, workmen's compensation, employer's liability tax, payroll tax, gasoline, oil, power, timber, and track. The applicant stated that he expected to provide the necessary equipment at his own expense.

In order to check the applicant's proposed costs, an estimate of probable costs has been made with the following reasoning. An advance of two feet per shift for sinking and three feet per shift for raising and drifting is assumed. The existing inclined drift and one-half of the new work will require timber. Operating equipment and any buildings will be furnished by the applicant.

Based on the above assumptions, the following estimate of the proposed work is developed.

Independent contracts: None.

Labor, supervision, consultants:

Labor (324 shifts)			
2 Miners @ $14	$ 28		
2 Muckers @ $10	20		
1 Truck driver @ $12 ..	12		
1 Foreman @ $16	16	$24,624.00	
Part time geologist and accountant		750.00	$25,374.00

Operating materials and supplies:
Water & air pipe, hose, drill steel, drill bits, gasoline, oil, explosives, ventilation pipe, rail & timber ..... $ 8,472.00

Operating Equipment:

To be furnished by applicant at no cost to contract.

Rehabilitation and repairs:
Rehabilitate inclined drift (or shaft) (230 ft. @ $20.50) ..... $ 4,715.00

New buildings, improvements, installations: None.

Miscellaneous:

Assay work		
80 tungstens @ $5.00	$ 400.00	
Taxes		
Workmens compensation (9%).....	2,361.00	
Employers liability Ins. (3%)..	787.00	
Payroll tax (1½%)	394.00	
Contingencies	397.00	..... $ 4,339.00

Total estimated cost $42,900.00

Government's participation at 75% .. $32,175.00

Summarizing the above and extending totals, the following comparison is developed.

Item	Applicant's Estimate	New Estimate
Rehabilitate inclined shaft	$ 2,760.00	$ 4,715.00
New work	20,600.00	38,185.00
Total estimated cost	$23,360.00	$42,900.00

In comparing the two estimates, two items account for most of the large difference. First, a reclassification of the proposed new work into the catagories of sinking and raising; and second, the inclusion of several items, i.e., provision for track, ventilation, engineering,

and taxes, which it is believed were not adequately provided for by the applicant. In addition, the anticipated wage rate has been increased over that used by the applicant, who indicated that he thought labor could be attracted at a rate of $1.00 per hour.

The work as outlined by the applicant will require approximately 15 months. All of the work which the applicant proposes to do on the east side of the existing No. 1 inclined drift would seem to be for the dual purpose of exploration and development. The small tonnage which could be proven by this work is insignificant.

ECONOMIC SUMMARY OF PROJECT

The expected ore, with a tungsten content of 0.21 percent and a copper content of 3.83 percent, would have an apparent value of $36.63 per ton. Of this value the tungsten accounts for $13.65, while the copper accounts for $22.98. In order to market the tungsten it would be necessary that it be concentrated. If this were done in the applicant's mill a recovery of not more than 50 percent could be expected. The concentrate made in the applicant's mill would contain copper for which a penalty would be assesed. The applicant stated that he had been quoted a price of $39.00 per unit for his tungsten concentrates. At this price, the recoverable value of tungsten would be $4.10 per ton of ore and all copper would be lost.

In view of the high copper content of some samples, it seems worth while to investigate the possibility that exploration of the property would be justified as a copper prospect. The inferred size of the ore body is obviously too small to justify a concentrating plant. The

copper recovery in the applicant's existing mill is very bad as indicated by the samples of his concentrates.

For the purpose of investigating direct shipment to a smelter, it is assumed that the only exploration necessary would be rehabilitating the existing No. 1 inclined drift or shaft at an estimated cost of $5,000.00, and driving a 300 foot raise to the west to daylight at an estimated cost of $35.00 per foot, or $10,500.00. This would add up to a total cost of $15,500.00, for which an inferred 7,500 tons of ore would have to be discovered. This is $2.67 per ton. Adding to this a charge for development, mining, transportation, and smelting, and taking into consideration the reduction in value of the ore by dilution, a cost exceeding the total value of the copper in the ore is indicated even at the present price of 30 cents per pound for copper.

CONCLUSIONS

The total tungsten content of the inferred ore is so small and the grade of the ore is so low that the property is of no importance as a possible tungsten deposit.

The larger part of the copper is in the form of oxide and carbonate minerals that are not easily concentrated. The indicated copper content of the ore is not high enough to realize a profit from sale directly to a smelter.

The possible ore body is too small to justify the construction of a concentrating plant that would recover the valuable minerals in a markatable product. The existing plant owned by the applicant is not suitable.

The applicant has evaluated the deposit by observation with a mineral light and has not checked sufficiently by chemical analysis. The tungsten content is much less than the applicant estimates.

The applicant has not included all items of cost in his estimate and the actual cost of his project would probably be much more than he has indicated

It is believed that any ore body of either copper or tungsten that would be discovered by the proposed exploration would be insignificant.

RECOMMENDATIONS

In view of the insignificant amount of tungsten and the small size of the inferred deposit, it is recommended that the application (DMEA-2866) for Government aid to explore the Fulton tungsten prospect be denied.

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

224 New Customhouse
Denver 2, Colorado

January 30, 1953

Memorandum

To: Administrator, Defense Minerals Exploration Administration
Attention: 200

From: Executive Officer, Field Team, Region IV

Subject: Docketing for Exploration Assistance

Enclosed herewith in duplicate is DMA Form 3a and Form MF-103 in duplicate and supporting data pertaining to the following applications for Government assistance in exploration work:

Vern J. Ruffaker
516 San Francisco St.
Santa Fe, New Mexico dmea 2866

Jaquays Mining Corporation
1219 South 19th Ave.
Phoenix, Arizona dmea 2867

W. H. King
W. H. King

Enclosures

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
FEB 2 1953

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 2866
Metal or Mineral
Date Received 2-2-53
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: Vearn J. Huffaker Golden N.Mex.

Present Address 516 San Francisco St. Santa Fe .N . Mex.

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

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

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

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. x

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 Three full mining claims & one fraction PARACHUTE, BAIL, FULTON and LUCKY FRACTION

One 25 ton mill and mill site located in Golden N.Mex. not to be included

(*b*) State any mine name by which the property is known. x

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Purchaser under contract

(*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. inclose copy

(*e*) If you own the land, describe any liens or encumbrances on it x

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Recorded book 5 of mining location Page 628,629,630

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. reference

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. refernce

(*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. reference

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. reference

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power. Sufficient at present time

16—66551-1

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

wo3 Tungsten copper & gold

(*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. reference

(*c*) The work will start within 10 days and be completed within 18 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. reference

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: reference

(*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.). none

(*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. reference

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

(*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. reference

(*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. none

(*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. none

(*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. reference

(*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? As work is done

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

Explain in detail on acompanying paper. reference

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 January 15, 1953

Vearn J. Huffaker
(Applicant)

By Vearn J. Huffaker

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

REFERENCE TO NO. (4)

(A) This property has been worked in the past years for gold and copper ore There are 5 tunnels apprex. I000 ft. drifting

(B) I can not give the past production or grabe as the work was done years back. I recently discovered that it contains a good grade of w3 Tungsten. runing from ½ of one percent to 5 percent There are about 500.ton of ore in the dump and gouge and I have started to mill. and it shewes a good recovery.

(C) This property contains a flat vain tipping at about I5.degree It is of a limestone and granit I want to explore this property fore the purpose of determining the amount and grade of ore deposite

(D) This mine is located I½ mile from Golden N.Mex. for residence point and state road. I8 mile to shipping point the Santa Fe Railrode 36.mile from Albuquerque N.Mex. for supplys

REFERENCE TO NO.(5)

(D) I have been mining and operating my own propertys for the past I2. years In Arizona & N.Mex.

REFERENCE TO NO. (6)

	Estimate of cost per foot.			Estimate of total cost.
New drifting	Laber---	$ I7.25	800.ft.	$ I3.800.00
	Meterial	8.50	" "	6.800000
	Per foot--	$ 25.75		
Rehabilitation Old tunnel	Laber--	$ 8.50	230. ft.	$ I.955.00
	material	3.50	" "	805.00
	Per feet-----	$ I2.00	Total Cost.-----	$ 23.360.00

(B) Included in above estimate

(C) Gasoline. oil. powder. timber.and track.

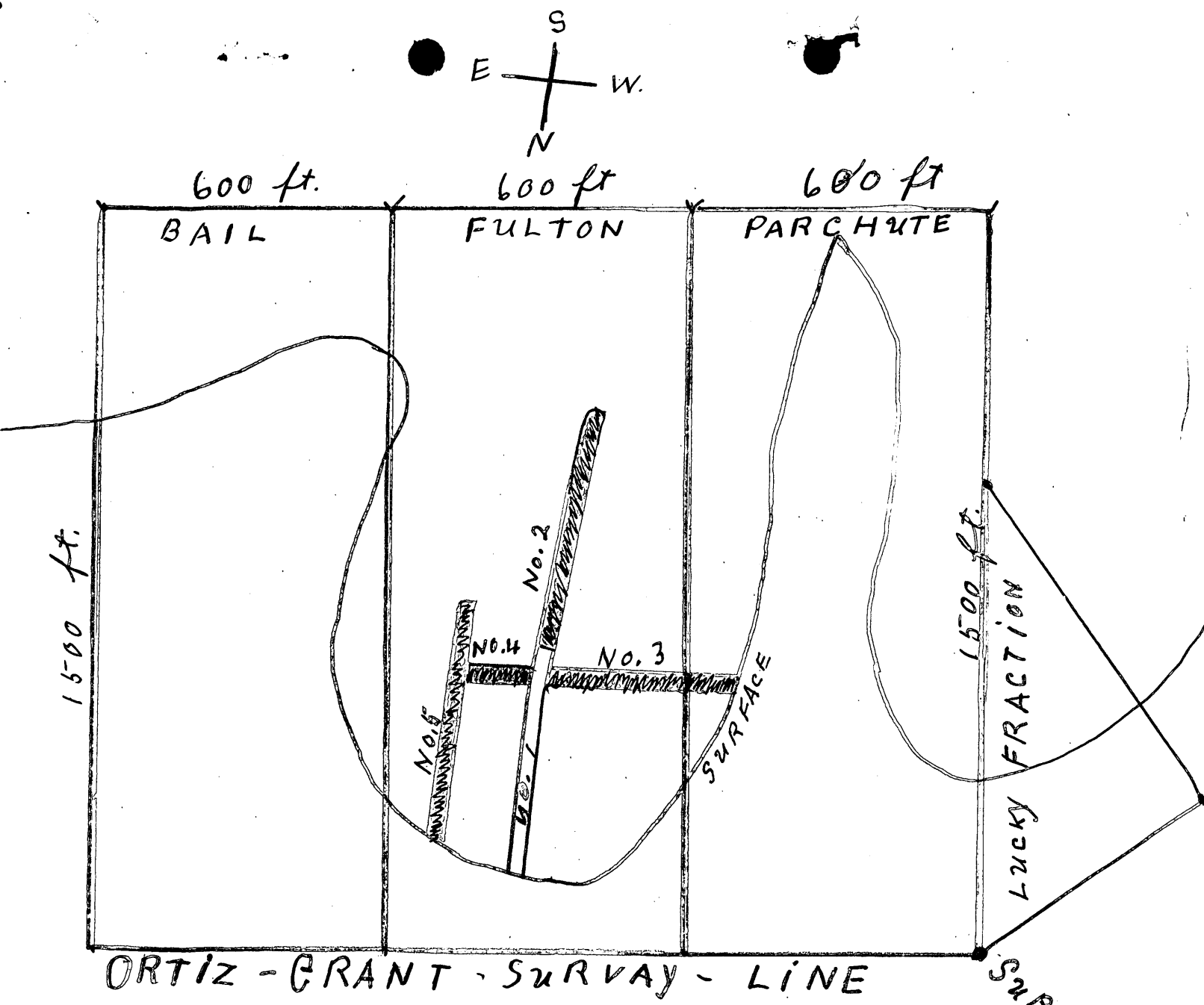
(D) All equipment required will be furnished by Operator no extra expence

(G) All included in estimate cost.

REFERENCE TO NO 7

I will furnish all expence for thirty day period then after checking the amount ~~of~~ den the Goverments percint can be reembersed to me.

Applicant Veorn J. Huffaker



Reference to NO. 5- expleretion project
NO. I- old incline tunnel 230.ft. to be cleaned and retimbered for rehabilitation & entries
NO. 2- new work to be done 200.ft. tunnel
NO. 3- new work to be done drifting to surface approx. 300.ft.
NO. 4- new work to be done drifting I00.ft.
NO. 5- new work to be done drifting 200.ft. approx. 32.ft. bellow old tunnel NO. I

All tunels & drifts in ore-bearing bed . vein runing from 6.in. to 8.ft. in thickness

Vearn J. Huffaker