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36	71.70	2581.20
15	83.81	1257.15
20	72.54	1450.80

$$3 \overline{) 71} \quad 74.50\%$$

23''

5289.15

$$\frac{23}{36} \times 74.50 = 47.61\% \text{ CaF}_2$$

$$\begin{array}{r} 74.50 \\ 75.00 \\ \hline 67.00 \end{array}$$

40 2 2 3 2

RECONSTRUCTION FINANCE CORPORATION
MINING DIVISION
REPORT OF SUPERVISING ENGINEER

Docket No. ND-8625
Date authorization for
Examination Received:
January 20, 1944
Date of Examination, inclu-
sive: Feb. 1, 1944
Date of Report: Feb. 10, 1944

1. NAME AND ADDRESS OF APPLICANT:

Name: B. X. Dawson
Address: Morrystown, Arizona
Correspondent: Same.

2. CHARACTER OF PROJECT:

To develop by means of an inclined shaft a fluorspar lode deposit.

3. LOCATION OF MINE:

Name of mine: Union Hill Mine
Twp. Range, Section: About T 6 N, R 5 W, G&SRB&M
Mining District - Vulture Mining District, Maricopa
County, Arizona.

Name and distance by road nearest railway station:
The mine is 9 miles by road west of Morrystown,
a station on the Santa Fe Railroad.

Condition and seasonal accessibility of road, mine
to railway.

This is a well graded dirt road that has been newly
constructed under the Mine Access Road Act. It should
be accessible at all times of the year except for a few
days each year. During the rainy season, the crossing
of the Hassayampa River would be difficult.

4. APPLICANT:

The applicant is an elderly man who has apparently had
considerable experience in mine promotion work. I did
not meet any members of his crew. It is probable that
he is competent to operate this project.

5. LOAN REQUESTED:

Applicant requests a loan of \$3500 which should be suf-
ficient to do the work he proposes. However, this engineer
does not believe a loan is justified for the project.

6. DESCRIPTION OF PROJECT:

A. Legal considerations

Applicant obtained a lease from a second party or "middle man" and not from the owner of the property. Both leases appear to be loosely drawn and incomplete. It is my understanding that it would be necessary for the applicant to pay two royalties - 10% to the owner and \$1.00 per ton to the lessor. In addition there is a balance due on the purchase of equipment of \$967.00 so it is doubtful if any of the equipment now on the property is completely paid for.

B. Existing Development

The vein is developed by a 20 foot shaft and a series of small open cuts along the outcrop. Attached to this report is a map of the workings. The bottom of the shaft and of the large open cut next to the shaft were inaccessible for sampling as they were partly filled with broken rock. Most of the development work done actually consists of small surface stopes where in the past all available fluorspar exposed on the surface was mined and shipped.

C. Surface Improvements

They consist of the following:-

70 ton wooden ore bin
25' headframe
105 cu. ft. Sullivan 1 cylinder horizontal compressor driven by 4 cylinder Waukesha gas engine.
1 air pressure storage tank
8 x 14 jaw crusher driven by Ford Model A engine
1 grizzly set to 1"
Miscellaneous tools and small equipment.

The hoist was not yet installed although the hoisting skids and 500 pound bucket were already in place. The shaft is completely timbered for its length of 20 feet.

D. General Geology of Area

Country rocks consist of Tertiary lavas associated with metamorphosed sediments and underlain in part by granite and older schists.

Near this property there have been a number of small fluorspar mines; some of them are now in operation. The RFC has made two fluorspar loans in this area, neither of which has been successful (John A. Campbell-BND-4295 and Wm. A. Daniell -ND-8181)

E. Economic Geology of Deposit

The walls of the vein are rhyolite, andesite, schist and metamorphosed sediments. Apparently the fissure in which is found the fluorspar cuts across successive narrow lava flows. The fissure is quite distinct altho fluorspar mineralization extends for several feet into the footwall. Much of the vein filling which would average over 3 feet in width for the exposed outcrop consists of calcite containing stringers of fluorspar being too lowgrade to ship. For that reason only three samples were taken as the applicant informed me that the various open cuts were not worth sampling as he considered the ore too low grade to mine.

F. Ore Reserves

The applicant admitted that the mine now does not expose any stopeable amounts of shipping ore but he believes that by sinking deeper the ore will become richer. However this is contrary to the history of the district and of fluorspar mines in general. It is obvious that a number of car loads of fluorspar have been shipped from this property in the past, but that ore was taken from small lenses on the surface, and the shape of the open cuts indicate that the ore pinched down to nothing at the bottom of all of the workings.

There is no ore blocked out in the mine and no appreciable amounts of probable ore now exposed. The average of the three samples taken by me in the only ore exposed averaged 74.50% fluorspar across 23 inches. Allowing for only a 10% dilution in mining, the ore will average 67% CaF_2 and over such narrow width the mining cost would probably be over \$10 per ton. On this basis if the ore is shipped to the Continental Ore Co. we have the following:

Income - Ore 65-70% CaF_2		\$15.50 per ton FOB R.R.
Costs:		
Hauling to railroad 9 miles	1.50	
10% royalty to landowners	1.55	
\$1/ton royalty to lessors	1.00	
Estimated mining costs	10.00	
Crushing and sorting	1.00	
	<hr/>	
Total costs		\$15.05
Estimated net profit per ton		<hr/>
before overhead expense - - - - -		\$.45

The above figures are believed very conservative and it is extremely doubtful if any net profit could be actually made.

G. Economic Considerations

Applicant states that on Nov. 17, 1943, a carload of ore was shipped from this property to the Continental Ore Company and this ore weighed 54.87 tons running 81.3% CaF₂ for which they paid \$17.00 per ton. This represents rich, picked surface ore of which there apparently is none left in the mine.

Applicant plans to sink the present shaft 50 feet deeper and drift 50 feet each way from the bottom. Since it is impossible to stope the ore within 20 feet of the shaft, this will leave but little actual stoping ground and since the ore in the present face of the shaft is not commercial this proposed work would be prospecting.

7. PROPOSED EXPENDITURES

Applicant itemized his expenditures as follows:

For sinking shaft additional 50 feet @ \$10.00 ft.	\$500.00
" drifting (east & west) 100' @ \$7.00 ft.	700.00
" ore car and 200' of rails	100.00
" Sullivan drill (Balance due)	75.00
" Timkin bits and steel	75.00
" Waukesha Motor 75 HP and air compressor (Bal.)	600.00
" Fairbanks Morse hoist, cable power, etc (Bal.)	200.00
" Blake ore crusher and power (Balance)	200.00
" Dodge 1937 pickup truck (reconditioned) (Bal.)	250.00
" Fittings, air hose, connections, etc., etc.	100.00
" Insurance, incidentals & contingencies	700.00
	<hr/>
	\$3500.00

8. COMMENTS OF SUPERVISING ENGINEER

I do not believe that a loan is justified for the project for the following reasons:

1. Any work done would be prospecting.
2. The ore as sampled would not be rich enough to maintain a profitable operation.
3. It does not appear that the deposit contains sufficient pay ore to repay the loan or produce a substantial amount of fluorspar for the War Effort.

WILLIAM B. MAITLAND
Supervising Engineer



ore bin
View looking east along vein outcrop

No. 401 ^{M₂}

Phoenix, Arizona,

Feb. 2, 1944

CHAS. A. DIEHL

ARIZONA ASSAY OFFICE

Phone 3-4001

815 North First Street

P. O. Box 114

This Certifies That samples submitted for assay by **Mr. Wm. B. Maitland.**

contain as follows per ton of 2000 lbs.

No.	DAWSON MARKS Width	SILVER		VALUE (Oz.)	GOLD		VALUE (Oz.)	TOTAL VALUE Of Gold and Silver	PERCENTAGE	
		Ounces	Tenths		Ounces	Hundths			CaF ₂	
105	36"								71.70	
106	15"								83.81	
107	20"								72.54	

Charges \$ 12.00

Assayer **ARIZONA ASSAY OFFICE**

Report of Supervising Engineer

Docket NO NO 8625

Date Authorization for Exam

Recd Jan 20, 1944

Date of Exam concl. Feb 1, 1944

Date of Report Feb 10, 1944

1. Name and Address of Applicant

Name: B. X. Dawson

Address - Morristown, Arizona

Correspondent - Same

2. Character of Project

to develop by means of an inclined shaft a fluor spar lode deposit.

3. Location of mine

Name of mine - Union Hill Mine

Township, range, section - about T6N, R5W G+5RB+M

Mining District - Vulture Mining District, Maricopa

County, Arizona

Name and distance by road nearest railway station - ~~a well graded~~

The mine is 9 miles west by road west of Morristown a station on the Santa Fe Railroad

Condition and seasonal accessibility of road, mine to railway - This is a well graded dirt road that has been newly constructed under the mine access road act. It shall be accessible at all times of the year except for a few days each year

(1)

120.
175
72
600
967

During the rainy season when the crossing of the Passayunga River would be difficult.

4 Applicant

The applicant is an elderly man who has apparently had considerable experience in mine promotion work. I did not meet any members of his crew, ~~but~~ it is probable that he is competent to operate this project.

5 Loan Requested

Applicant requests a loan of \$3500 which should be sufficient to do the work he proposes. However this engineer does not believe a loan is justified for this project.

(2)

6 Description of Project

^{light consideration}
The applicant obtained a lease from a second party or "middle-man" and not from the owners of the property. Both leases appear to be loosely drawn and incomplete. It is my understanding that it would be necessary for the applicant to pay two royalties - 10% to the owner and \$1.00 per ton to the lessee. In addition there is a balance due on the purchase of equipment of \$967.00 so it is doubtful if any of the equipment now on the property is completely paid for.

B. Existing Development

The mine is developed by a 20 foot shaft and a series of small open cuts along the outcrop. Attached to this report is a map of the workings. The bottom of the shaft and of the large open cut next to the shaft were measurable.

for sampling as they were partly filled with broken rock. Most of the development work done actually consists of small surface stopes where in the past all available fluorapatite exposed on the surface was mined and shipped.

C. Surface Improvements

They consist of the following: -

70 ton wooden ore bin

25' headframe

105 cu foot Sullivan 1 cylinder

horizontal compressor driven by

4 cylinder Waukesha gas engine

1 air pressure storage tank

8' x 14' jaw crusher driven by
Ford Model A engine

1 grizzly set to 1"

Misc tools and small equipment.

The hoist was not yet installed altho the hauling skids and 500 pound bucket were already in place. The shaft is completely timbered for its length of 20 feet.

D. General Geology of Area

The rocks consist of Tertiary lavas associated with metamorphosed sediments and intrusions. Part by granite and older schists.

Near this property there have been a number of small fluorapatite mines, some of them are now in operation. The R.F.C. has made two fluorapatite claims in this area, neither of which have been successful (John A. Campbell BNO 4295 & d

Wm A. Daniell ND 8181)

E Economic Geology of Deposit

The walls of the vein are rhyolite, andesite, schist and metamorphosed sediments, apparently the fracture in which is found the fluor spar cuts across successive narrow lava flows. The fracture is quite distinct altho fluor spar mineralization extends for several feet into the footwall altho ~~but~~ it is ~~too low grade to be classed as ore.~~

(4) Much of the vein filling which would average over 3 feet in width for the exposed outcrop consists of calcite containing stringers of fluor spar being too low grade to ship. For that reason only three samples were taken as the applicant ^{informed} ~~instructed~~ me that the various open cuts were not worth sampling as he considered the ore too low grade to mine.

The applicant

F Ore Reserves

The applicant admitted that the mine now does not expose any stopable amounts of shipping ore but he believes that by sinking deeper the ore will become richer. However this is contrary to the history of the district and of fluor spar mines in general. It is obvious that a number of car loads of fluor spar have been shipped from this property in the past but that ~~the~~ ore was taken from small lenses on the surface and the shape of the open cuts indicate that the ore pinched down to nothing at the bottom

of all of the workings.

There is no ore blocked out in the mine and no appreciable amounts of probable ore now exposed. The average of these three samples taken by me in the only ore exposures averaged 74.50% fluorapatite across 23 inches, allowing for only a 10% dilution in mining the ore will average 67% CaF_2 and over such narrow widths the mining cost would probably be over \$10 per ton. On this basis if the ore is shipped to the Continental Ore Co we have the following:

(10)

Income: Ore 65-70% CaF_2

\$15.50 per ton FOB R.R.

Costs:

Handling to railroad 9 miles 1.50

10% royalty to landowners 1.55

\$1/ton " " license 1.00

Estimated mining costs 10.00

Crushing and sorting 1.00

Total costs 15.05

Estimated net profit per ton before overhead expense \$0.45

The above figures are believed very conservative and it is ^{extremely} ~~very~~ doubtful if any net profit could be actually made.

G. Economic Considerations

Applicant states that on Nov 17, 1943 a carload of ore was shipped from this property to the Continental Ore Company and this ore weighed 54.87 tons running 81.3% CaF_2 for which they paid \$17.00 per ton. This represents rich,

picked surface ore, of which there apparently is none left in the mine

Applicant plans to sink the present shaft 50 feet deeper and drift 50 feet each way from the bottom. Since it is impossible to stop the ore run within 20 feet of the shaft this will leave but little actual stoping ground and since the ore in the present face of the shaft is not commercial this proposed work would be prospecting

7. Proposed Expenditures

(6) Applicant ~~is not~~ itemized his expenditures as follows

'Quote' ^{in application for loan} Exhibit "A" = 10.2% as marked

8. Comments of Supervising Engineer

I do not believe that a loan is justified for the project for the following reasons:-

1. Any work done would be prospecting
2. The ore as sampled would not be rich enough to maintain a profitable operation.
3. It does not appear that the deposit contains sufficient pay ore to repay the loan ~~or~~ or produce a substantial amount of fluorapatite for the War Effort

Wm B Marshall

W

