



CONTACT INFORMATION

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MINERAL PROPERTY FILE

463.1/24
463.1/139
Present file No. 463.2/14145
New file No. 21.56

COUNTY Mohave STATE Arizona

TWP 37 N RANGE 5 W SECS. 27

Main Commodity Copper
Others _____

PROPERTY NAME The Hack Mine

OTHER NAMES _____

OWNER A. J. Jensen ADDRESS Fredonia, AZ

LESSEE Canyon Copper Co. ADDRESS P. O. Box 584, Kanab, AZ

LOCATION About 38 miles SW of Fredonia, AZ, in Hack Canyon

ACCESS _____

TYPE OF DEPOSIT:

Disseminated Vein _____
Bedded _____ Lenses or pods _____
Contact _____ Residual _____
Placer _____ Other _____

WORKINGS:

Underground ACCESSIBLE: Yes _____ No _____ Unknown

Drift, X-cut _____ Shaft

Total Length: Less than 200' 200' to 1,000' _____ More than 1,000' _____

Surface

Open pit Small _____ Large _____ Trenches _____ Test pits _____

Drill holes _____

Undeveloped _____

PLUS 500 TON PRODUCTION: Yes _____ No _____ Unknown

DATE OF INFORMATION 2/1944

TYPE OF REPORT:

Standard Examination _____ DMEA or OME _____ WMR _____ Correspondence _____
Summary Report Access Road _____ MRB _____ Other _____
Map _____ Non Bureau _____

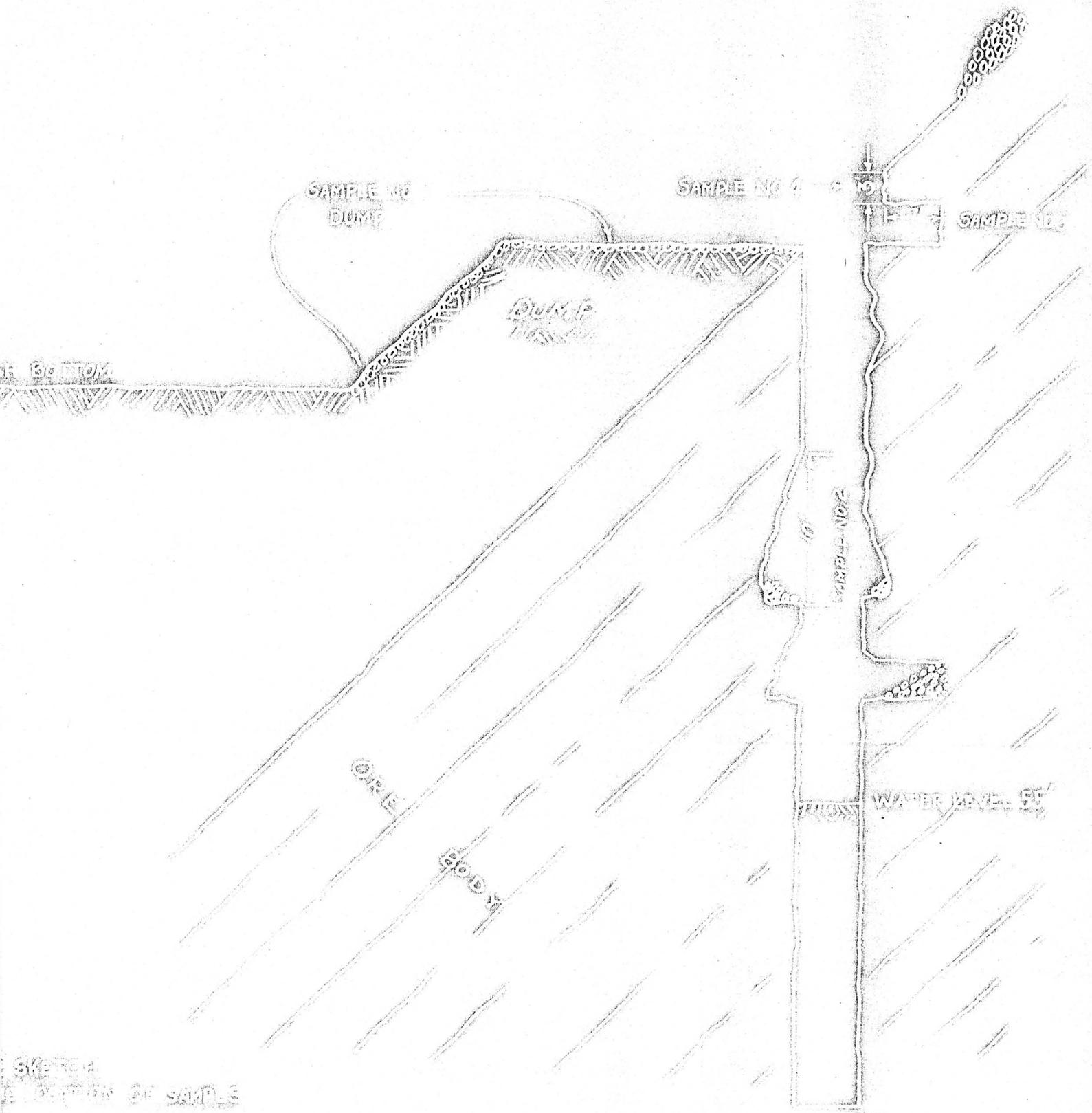
FURTHER WORK RECOMMENDED _____ NOT RECOMMENDED

Hacker Canyon Copper Mine

METAL PRODUCTION (Contents)

*A ONE MILLION AND BULLION PRODUCED.
 B ONE HUNDRED THOUSAND PRODUCED.
 C ONE SMALL TON.

YEAR	COPPER ORE PRODUCED		COPPER CONCENTRATES PRODUCED		RECOVERED	COPPER (TONS)		COPPER (POUNDS)		ZINC (POUNDS)	
	Dry Tons	Class	Dry Tons	Class		Gross In Ore	Gross In Concentrates	Gross In Ore	Gross In Concentrates	Gross In Ore	Gross In Concentrates
1943 C	226	C				284					
1944 C	86	C				149					
1945 C	178	C				540					
									11,704		
									8,411		
									22,754		



SECTION OF MINE BODY
 TO SHOW POSITION OF SAMPLE

SECTION OF MINE BODY
 TO SHOW POSITION OF SAMPLE

SCALE 1" = 10'

WAR MINERALS REPORT *

Report of the Bureau of Mines to Secretary of the Interior, Harold L. Ickes

THE HACK MINE - CANYON COPPER CO.
Mohave County, Arizona

- Copper -

Summary

The Hack mine, located about 38 miles southwest of Fredonia, Arizona, in Hack Canyon, is a small property from which 95 tons of ore is reported to have been shipped about 1891.

The present company has spent about \$10,000 of their own money on new equipment and road construction. They have applied for an access road improvement and construction at a cost of \$10,000.

The ore occurs as copper carbonate in a sandstone formation. The mineralization in the sandstone appears to be limited to a comparatively small area, centering about an 85-foot shaft, at the only important outcrop on the property. Little or no exploration or development has been done by the present company and there is 10 to 30 feet of water in the shaft.

The indicated ore is estimated at 500 tons and the inferred ore at 1,000 tons, averaging 7 percent copper. There is a possible recovery of 200,000 pounds of copper and the ore is sufficiently high in silica and low in alumina to be desirable as a siliceous flux. However, the high cost of mining and

* The War Minerals Reports of the Bureau of Mines are issued by the United States Department of the Interior to give official expression to the conclusions reached on various investigations relating to domestic minerals. These reports are based upon the field work of the Bureau of Mines and upon data made available to the Department from other sources. The primary purpose of these reports is to provide essential information to the war agencies of the United States Government and to assist owners and operators of mining properties in the production of minerals vital to the prosecution of the war.

RECORD OF OPERATIONS OF MINES IN TERRITORY OF THE INSPECTOR GENERAL
AND MINING REVENUE

transportation precludes the possibility of profitable operations unless the operators are granted at least a 10-cent copper bonus.

It is therefore recommended that the application for an access road improvement be approved if it is found that there is a demand for the siliceous flux and provided a copper bonus is granted of not less than 10 cents per pound of copper. No work by the Bureau of Mines is recommended.

Introduction

This mine was examined by an engineer 1/ of the Bureau of Mines in response to an application by the owners, through the Grazing Service, for an access road at an estimated cost of \$10,000. A. J. Jensen, one of the owners, took the Bureau engineer to the mine in his car.

Location and Accessibility

The property is located in sec. 27, T. 37 N., R. 5 W., Mohave County, Arizona, in Hask Canyon, which drains to the Colorado River (fig. 1).

The road to the mine is as follows: Take the Pipe Springs National Monument road for a distance of 11 miles westerly from Fredonia, Arizona. Nine miles of this road is in the Kaibab Indian Reservation. At the 11-mile point take the left-hand road and travel in a southwesterly direction for 18 miles to a cattle tank at the head of Hask Canyon; thence, turn left in a southerly direction and take a newly constructed road down Hask Canyon for about 8-1/2 miles to the mine.

On the 9-mile stretch of road through the Kaibab Indian Reservation there is 1-1/2 miles of adobe road which needs to be surfaced. (There is said to be surfacing gravel within 3 miles of this road.)

On the 18-mile stretch there is an 80-foot concrete apron needed, one culvert, and 5 miles to be surfaced.

1/ Phelps, Harlow D., mining engineer

On the 8-1/2 miles down the canyon there is estimated to be 1/2 mile of rock work, 5 miles of bulldozer road, and 3 miles of grader road in the bottom wash of the canyon.

The present operators say they have spent about \$7,000 on this last 6-1/2 miles of road. The road is passable but rough and narrow, with one or two short, steep grades on the shelf road climbing out of the canyon.

Ownership

The property, consisting of five unpatented lode claims, is owned by A. J. Jensen, Fredonia, Arizona, Roy Pointer, and Elliot Pearson. It is leased and optioned to the Canyon Copper Company, Percy H. Hamaden, Jr., manager, P. O. Box 584, Kanab, Arizona. Mr. G. C. Harwood, 1521 Wilshire, Phoenix, Arizona, has an interest in the company.

History and Production

The mine was operated in 1890-91. A road was built down the canyon, and 95 tons of ore reported shipped. An 85-foot shaft was sunk at that time.

A cloudburst destroyed most of the road, and the mine remained idle until the present operators recently obtained a lease on the property. They have built a road, and are building a camp preparatory to starting mine operations.

Physical Features

The elevation in the canyon is approximately 4,600 feet. The vertical walls rise to a height of 200 feet or more above the floor of the canyon. The climate is mild and arid, with little vegetation of any kind within the canyon.

Geology and Ore Occurrence

The ore occurs as a copper carbonate impregnating the sandstone which has been fractured and faulted, probably by some local earth movement, as the disturbance seems to be confined to the immediate area of the mineralization. The Coconino sandstone forms the vertical walls of the canyon, resting on the red shales of the Supai formation, above the bottom of the canyon.

The only development, except for two or three small cuts, is a shaft, reported to be 55 feet deep. This shaft is located in a small branch canyon, 200 feet east of its confluence with Haak Canyon and is about 20 feet above the canyon wash.

The outcrop cannot be traced in either direction much beyond the exposure at the shaft. There is no surface indication of an extensive deposit. The shaft was inaccessible below the 35-foot level and water stands at 55 feet.

With a width of 4 to 6 feet indicated at the outcrop, a depth of 30 feet, and an estimated length of 50 feet, there would be approximately 500 tons of ore averaging possibly 7 percent copper. The inferred ore is estimated at 1,000 tons.

Operating Cost

Mining cost is estimated at \$10 a ton by the present operators. Transportation by truck from the mine to the railroad loading station at Marysvale, Utah, a distance of 149 miles, costs \$6.50 a ton. Freight from Marysvale to a smelter in the Salt Lake Valley is estimated at \$1.60 for ore up to \$15 value.

The ore is desirable as a siliceous flux, with little or no alumina and 70 to 80 percent silica. A premium would be paid for this ore, if and when there is a demand for silica flux. The total cost is estimated at \$20 a ton. The net smelter return on 7 percent copper ore, and a little silver, would be approximately \$12 a ton. Therefore, unless the operators are granted a bonus of 10 cents per pound of copper, they cannot operate at a profit.

Sampling

The following samples, Nos. 1 to 4 and 1 to 3, were taken by P. H. Ramsden, Jr., engineer and manager of the Canyon Copper Company. Sample 3078 was taken by the Bureau engineer.

Sample No.	Width, feet	Location	Assay	
			Oz. Ag	% Cu
1	Grab (4/25/43)	Dump		5.20
2	10 "	North side shaft, 35-ft. level		14.0
3	7 (4/27/43)	Surface outcrop		7.6
4	3 "	Surface outcrop		8.5
1	7 (11/1/43)	North side shaft, 35-ft. level	2.7	3.55
2	7 "	South side shaft, 35-ft. level	3.3	7.05
3	7 "	North side shaft, 45-ft. level	2.0	7.30
3078	7 (11/8/43)	Surface outcrop	1.1	7.20

Equipment

An Ingersoll-Rand 315 cu-ft. portable compressor, an 8-hp. hoist, three jackhammers, small Ford bulldozer, 5-ton truck, steel mine car and miscellaneous equipment necessary to carry on small mining operations.

Conclusion

The mineralization in the sandstone appears to be limited to a comparatively small area centering about an 85-foot shaft, at the only important outcrop of copper ore.

Little or no exploration or development has been done by the present company, but there is a possible recovery of 200,000 pounds of copper from the ore at the shaft. This ore is sufficiently high in silica and low in alumina to be desirable as a siliceous flux. However, the high cost of mining and transportation precludes the possibility of profitable operations unless the operators are granted at least a 10-cent copper bonus.

It is therefore recommended that the application for an access road improvement be approved, if it is found that there is a demand for the siliceous flux, and provided a copper bonus is granted of not less than 10 cents per pound of copper. No work by the Bureau of Mines is recommended.

W.M.M. _____
February 1944

14 145

WAR MINERALS MEMORANDUM ^{1/}

UNITED STATES DEPARTMENT OF THE INTERIOR - BUREAU OF MINES

Report of the Bureau of Mines to Hon. Harold L. Ickes,
Secretary of the Interior

THE HACK MINE - CANYON COPPER CO.
Mohave County, Arizona

- Copper -

Summary

The Hack mine, located about 38 miles southwest of Fredonia, Arizona, in Hack Canyon, is a small property from which 95 tons of ore is reported to have been shipped about 1891.

The present company has spent about \$10,000 of their own money on new equipment and road construction.

They have applied for an access road improvement and construction at a cost of \$10,000. The improvement requested by the present operators is outlined under "Location and Accessibility."

The ore occurs as copper carbonate in a sandstone formation. The mineralization in the sandstone appears to be limited to a comparatively small area, centering about an 85-foot shaft, at the only important outcrop on the property. Little or no exploration or development has been done by the present

1/ These memoranda present the facts reported by Bureau of Mines engineers regarding properties for which no further consideration is recommended. Therefore, they should be treated as confidential, for the sole use of Bureau employees. They should not be given out to the public or to the owners of the properties concerned.

Handwritten initials

company and there is 10 to 30 feet of water in the shaft.

The indicated ore is estimated at 500 tons and the inferred ore at 1,000 tons, averaging 7 percent copper.

There is a possible recovery of 200,000 pounds of copper and the ore is sufficiently high in silica and low in alumina to be desirable as a siliceous flux. However, the high cost of mining and transportation precludes the possibility of profitable operations unless the operators are granted at least a 10-cent copper bonus.

It is therefore recommended that the application for an access road improvement be approved if it is found that there is a demand for the siliceous flux and provided a copper bonus is granted of not less than 10 cents per pound of copper. No work by the Bureau of Mines is recommended.

Introduction

This mine was examined by an engineer^{2/} of the Bureau of Mines in response to an application by the owners, through the Grazing Service, for an access road at an estimated cost of \$10,000.

Mr. A. J. Jensen took the Bureau engineer to the mine in his car.

Location and Accessibility

The property is located in sec. 27, T.37 N., R. 5 W., Mohave County, Arizona, in Hack Canyon, which drains to the Colorado River (fig. 1).

The road to the mine is as follows: Take the Pipe Springs National Monument road for a distance of 11 miles westerly from Fredonia, Arizona. Nine miles of this road is in the Kaibab Indian Reservation. At the 11-mile point take the left-hand road and travel in a southwesterly direction for 18 miles to a cattle tank at the head of Hack Canyon; thence, turn left in a southerly

^{2/} Phelps, Harlow D., mining engineer

direction and take a newly constructed road down Hack Canyon for about 8½ miles to the mine. On the 9-mile stretch of road through the Kaibab Indian Reservation there is 1½ miles of adobe road which needs to be surfaced (there is said to be surfacing gravel within 3 miles of this road).

On the 18-mile stretch there is an 80-foot concrete apron needed, one culvert, and 5 miles to be surfaced. On the 8½ miles down the canyon there is estimated to be 1/2 mile of rock work, 5 miles of bulldozer road and 3 miles of grader road in the bottom wash of the canyon.

The present operators say they have spent about \$7,000 on this last 8½ miles of road. The road is passable but rough and narrow, with one or two short steep grades on the shelf road climbing out of the canyon.

Ownership

The property, consisting of 5 unpatented lode claims, is owned by A. J. Jensen, Fredonia, Arizona, Roy Pointer and Elliot Pearson. It is leased and optioned to the Canyon Copper Company, Percy H. Ramsden, Jr., manager, P. O. Box 584, Kanab, Arizona. Mr. G. C. Harwood, 1521 Wilshire, Phoenix, Arizona, has an interest in the company.

History and Production

The mine was operated in 1890-91. A road was built down the canyon and 95 tons of ore reported shipped. An 85-foot shaft was sunk at that time. A cloud-burst took out most of the road and the mine remained idle until the present operators recently obtained a lease on the property. They have built a road and are building a camp preparatory to starting mine operations.

Physical Features

The elevation in the canyon is approximately 4,600 feet. The vertical walls rise to a height of 200 feet or more above the floor of the canyon. The climate is mild and arid, with little vegetation of any kind within the canyon.

Geology and Ore Occurrence

The ore occurs as a copper carbonate impregnating the sandstone which has been fractured and faulted, probably by some local earth movement, as the disturbance seems to be confined to the immediate area of the mineralization. The Coconino sandstone forms the vertical walls of the canyon, resting on the red shales of the Supai formation, above the bottom of the canyon.

Development and Ore Reserve

Location

U.S. GEOLOGICAL SURVEY
BUREAU OF MINERAL RESOURCES
WASHINGTON, D. C.

The only development, except for 2 or 3 small cuts, is a shaft, reported to be 85 feet deep. This shaft is located in a small branch canyon, 200 feet east of its confluence with Hack Canyon and is about 20 feet above the canyon wash.

The outcrop cannot be traced in either direction much beyond the exposure at the shaft. There is no surface indication of an extensive deposit. The shaft was inaccessible below the 35-foot level and water stands at 55 feet.

With a width of 4 to 6 feet indicated at the outcrop a depth of 30 feet and an estimated length of 50 feet, there would be approximately 500 tons of ore averaging possibly 7 percent copper. The inferred ore is estimated at 1,000 tons.

Operating Cost

Mining cost is estimated at \$10 a ton by the present operators. Transportation by truck from the mine to the railroad loading station at Marysvale, Utah, a distance of 149 miles, costs \$6.50 a ton. Freight from Marysvale to a smelter in the Salt Lake Valley is estimated at \$1.60 for ore up to \$15 value.

There is a small area containing about an 85-foot shaft, at the only exposed outcrop of copper ore.

The ore is desirable as a siliceous flux, with little or no alumina and 70 to 80 percent silica. A premium would be paid for this ore, if and when there is a demand for silica flux. The total cost is estimated at \$20 a ton. The net smelter return on 7 percent copper ore, and a little silver, would be approximately \$12 a ton. Therefore, unless the operators are granted a bonus of 10 cents per pound of copper, they cannot operate at a profit.

Sampling

It is therefore recommended that the collection for assay be made. The following samples, Nos. 1 to 4, and 1 to 3, were taken by P. H. Ramsden, Jr., engineer and manager of the Canyon Copper Company. Sample No. 3076 was taken by the Bureau engineer.

<u>Sample No.</u>	<u>Width, feet</u>	<u>Location</u>	<u>Assay</u>	
			<u>Oz. Ag</u>	<u>% Cu</u>
1	Grab (4/26/43)	Dump		5.20
2	10 "	North side shaft, 35-ft. level		14.0
3	7 (4/27/43)	Surface outcrop		7.6
4	3 "	Surface outcrop		8.5
1	? (11/2/43)	North side shaft, 35-ft. level	2.7	3.95
2	? "	South side shaft, 35-ft. level	3.3	7.05
3	? "	North side shaft, 45-ft. level	2.0	7.30
3076	7 (11/6/43)	Surface outcrop	1.1	7.20

Equipment

An Ingersoll-Rand 315 cu-ft. portable compressor, an 8-H.P. hoist, 3 Jackhammers, small Ford bulldozer, 5-ton truck, steel mine car and miscellaneous equipment necessary to carry on small mining operations.

Conclusion

The mineralization in the sandstone appears to be limited to a comparatively small area centering about an 85-foot shaft, at the only important outcrop of copper ore.

Little or no exploration or development has been done by the present company but there is a possible recovery of 200,000 pounds of copper from the ore at the shaft. This ore is sufficiently high in silica and low in alumina to be desirable as a siliceous flux. However, the high cost of mining and transportation precludes the possibility of profitable operations unless the operators are granted at least a 10-cent copper bonus.

It is therefore recommended that the application for an access road improvement be approved if it is found that there is a demand for the siliceous flux and provided a copper bonus is granted of not less than 10 cents per pound of copper. No work by the Bureau of Mines is recommended.

February 18, 1944

The Hack Mine - Canyon Copper Co.
Mohave County, Arizona
Arizona No. _____

Sources of Information

Examination by Harlow D. Phelps, November 6, 1943.

February 12, 1944

139

JHH:lfr

Mr. C. F. Dierking,
Regional Grazier,
504 Heard Building,
Phoenix, Arizona.

Dear Mr. Dierking:

Reference is made to your letter of February 11 concerning the Arizona-Hack's Mine road, and to an enclosed copy of Mr. McLane's letter covering the estimated cost of this road.

Mr. Rutledge of the Public Roads Administration reported that the expenditure of \$10,000 would improve the mine road sufficiently to make it practical but that an additional \$10,000 will need to be expended on the county road from Hack's Canyon to Fredonia to prevent interruption of trucking during wet weather. He reported that recent development at about 50 feet depth on the vein has exposed some very good ore.

Our original estimate of the tonnage of ore that can be developed was liberal and included all the ore that exploration to 50 feet depth is likely to disclose. The expenditure of \$10,000 on this road is all that is justified by prospective production from this mine and I feel that our provisional approval of the road should be submitted without change.

Yours very truly,

J. H. HEDGES

J. H. Hedges,
District Engineer.

cc - SL
WR
Tuc ✓
DF

FEB 12 1944

UNITED STATES
DEPARTMENT OF THE INTERIOR
GRAZING SERVICE

504 Heard Building, Phoenix, Arizona

ADDRESS REPLY TO
REGIONAL GRAZIER

REPLY REFER TO:

D
COOPERATION
PRA
Arizona--Hack Mine

February 11, 1944

Ans. 2/12 JH

Mr. J. H. Hedges
District Engineer
U. S. Bureau of Mines
Tucson, Arizona

Dear Mr. Hedges:

Transmitted herewith are copies of Mr. McLane's letter of February 9 and a route study of the Arizona--Hack's Mine road.

You will note that Mr. McLane requests that you give consideration to increased cost as outlined in Estimate A of the route study. This plan would allow construction of a permanent, all year hauling road.

Construction as outlined under Estimate B would greatly improve the present trail but would not be an all weather road. Sections as noted in the route study would be boggy and impassable during rainy seasons and winter storms.

Submittal of this project to the W.P.B. is being withheld pending receipt of your recommendation.

Very truly yours,

C. F. Dierking
C. F. Dierking
Regional Grazier

enclosures



481 Ariz. Mine Access Gen.
Hack's Mine

P. O. Box 70
Phoenix, Arizona
February 9, 1944

Mr. C. F. Dierking, Regional Grazier
U. S. Grazing Service
504 Heard Building
Phoenix, Arizona

Dear Mr. Dierking:

Transmitted herewith are two copies of the route report covering a proposed access road to Hack's Mine located approximately 37 miles south of Fredonia, Ariz.

You will note the estimated cost of improving all sections of the road is \$20,000, which is in excess of the \$10,000 recommended for approval by the Bureau of Mines.

At the time of the route study it was learned that a richer body of ore had recently been struck which was not apparent at the time of the Bureau of Mines inspection. In view of this it is thought that the Bureau of Mines may wish to reconsider the application for the higher amount and six copies of the PR DA-1 are being returned herewith.

If, however, the higher amount is not considered justified, I am willing to submit the project for \$10,000 to cover the work shown under Estimate B in the route report.

Very truly yours,

G. L. McLANE
Senior Highway Engineer

attachments
in duplicate

*Complete
report
not copied*

District No. Two

UNITED STATES DEPARTMENT OF AGRICULTURE

State Arizona

BUREAU OF PUBLIC ROADS

Project No. _____

Report on Route Study - Access Road to Hack's MineInspection made by E. K. Rutledge, Assoc. H. E. Date inspection made February 2, 1944In company with J. H. Bjork, Asst. Engr., U.S. Grazing Service and G. C. Harwood
and P. H. Ransden, Mine Operators.

6-4053 U. S. GOVERNMENT PRINTING OFFICE

This report covers a route study of a proposed access road to Hack's Mine located approximately 37 miles southwest of Fredonia in Mohave County, Arizona. The mine is at the mouth of a side canyon, entering Hack's Canyon from the north, with the main shaft and tunnel located only slightly above the canyon floor.

The prospect was located many years ago, but was not worked because of the isolated location and absence of roads in the area. In the last few years, however, considerable road work has been done on the mesa between Hack's Canyon and Fredonia by the Indian Service and G. C. S. forces. Also within the last year the mine operators have constructed a low standard road down Hack's canyon from the mesa in order to move in mining equipment and supplies.

Development work at the mine has now reached the stage where the operators are now shipping ore. The condition of the existing road is such that trucking costs are excessive due to the length of time required to travel between the mine and Fredonia. This is especially true during the wet seasons.

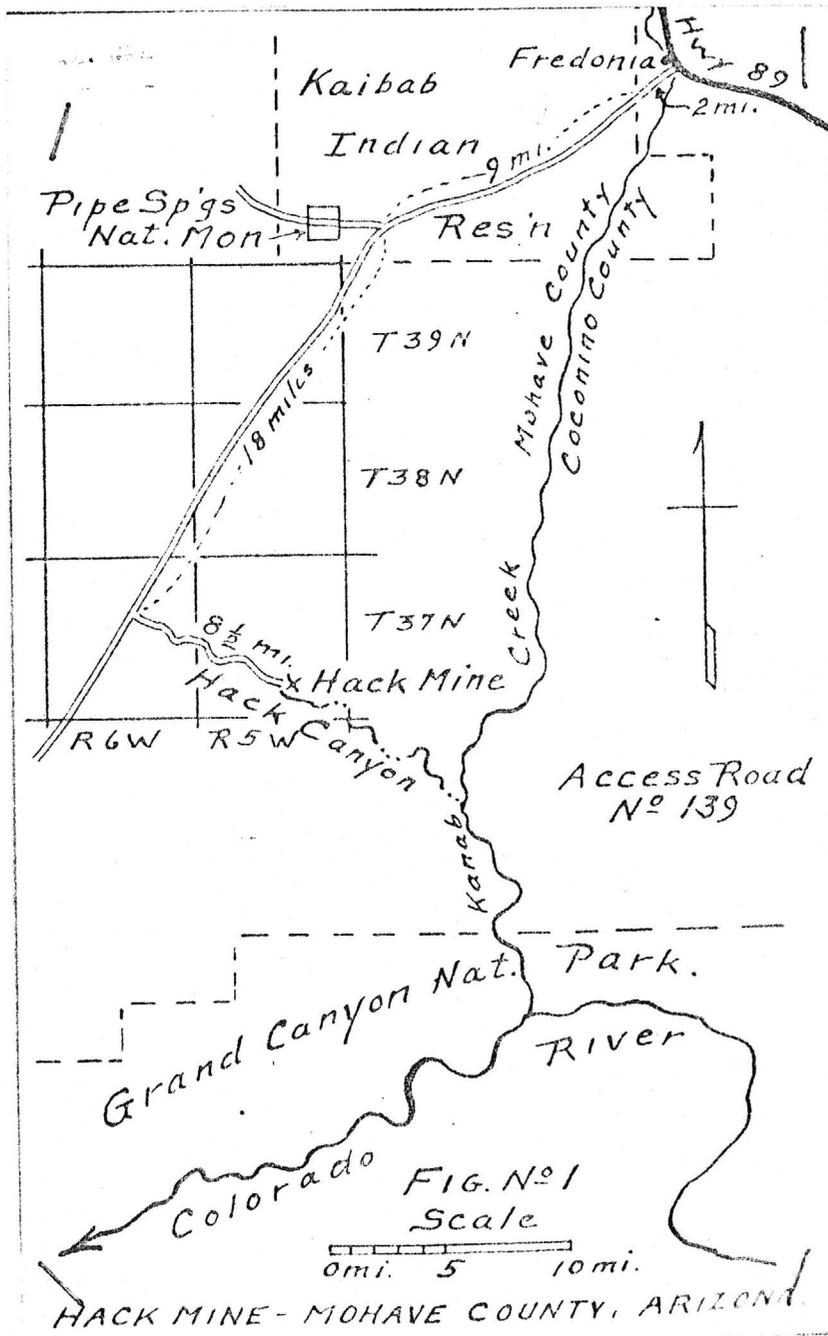
PRESENT ROAD:

The closest rail loading point which does not involve mountain grades and alignment is at Maryevale, Utah located approximately 123 miles north of Fredonia, Arizona. Haul between Fredonia and Maryevale is via U.S. Route 89 which is an improved hard surfaced highway having easy grades and good alignment.

From Fredonia to the mine Indian Service and county roads are used together with 6½ miles of narrow, crooked road constructed by the mine operators.

From log mile 9.0 at Fredonia (See log attached to this report) to Kanab Creek at mile 9.7 the road has been graded to a width of 20 feet, drained and gravel surfaced. It is well maintained by Coconino County.

From Kanab Creek, which is the Coconino-Mohave county line, to mile 8.9 the road has been graded and drained to a width of 16 to 18 feet. A small amount of gravel surfacing has been placed in spots. About 4.2 miles of this section however becomes very soft and muddy when wet. At the time



Kaibab
 Indian
 Pipe Spgs Nat. Mon.
 Fredonia
 Resin
 T39 N
 T38 N
 T37 N
 R6W R5W
 Hack Mine
 Hack Canyon
 Kaibab Creek
 Mohave County
 Coconino County
 Access Road No 139
 Grand Canyon Nat. Park.
 Colorado River
 FIG. No 1
 Scale
 0mi. 5 10mi.
 HACK MINE - MOHAVE COUNTY, ARIZONA

TRANSMITTAL FORM

14,145

Place Tucson, Arizona

Date Feb. 22, 1944

Type of Publication War Minerals Memorandum

Project No. and Name The Hack Mine, Canyon Copper Co., Mohave County, Arizona

Examining Engineer Harlow D. Phelps Geologist _____

Project Engineer _____ Author Harlow D. Phelps

Illustrations Submitted with Report:

Prints 2 copies of 1 figure

Glossy Prints _____

Submitted by J. H. HEDGES District Engineer.
J. H. Hedges Title

FOR USE OF REGIONAL OFFICE ONLY

Date Received _____

Referred to:

Name	Purpose	Date	Date Returned
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Illustrations to Accompany Report to Washington:

Prints _____

Glossy Prints _____

Checked by _____ Edited by _____

Final typing by _____

Submitted to Washington _____ Printed No. _____
Date _____

cc - Salt Lake
Tucson

JAN 13 1944

Western Region
XXXXXXXXXXXX

January 7, 1944

RDP/cjl

Mr. L. H. Brooks,
Regional Grazier,
Grazing Service,
503 Board Building,
Phoenix, Arizona.

Handwritten:
Hick's Mine
139

Dear Mr. Brooks:

Enclosed are four FR-DA-1 forms for an access mine road to the property of the Canyon Copper Company, known as the Hack's mine in Mohave County, Arizona which is approved by this office, provided, the need for copper-bearing siliceous flux is sufficiently acute to justify a road building cost of 5 cents per pound of copper, and if the operators are granted the additional premium needed to make operation of the mine feasible.

The accompanying "Recommendation of Access Road Application" by the District Engineer, Mr. J. H. Hodges, gives the pertinent information concerning this property justifying the proposed expenditure on this road with the above mentioned stipulations.

Very truly yours,

PAUL T. ALLEMAN,
Principal Mining Engineer.

cc Dr. Dean
Mr. Hodges
SL
VR
DP

January 3, 1944

14,145

Mr. Percy H. Ramsden, Jr., Manager
Canyon Copper Company,
P. O. Box 584,
Kanab, Utah.

HDP|lf

Dear Mr. Ramsden:

I am enclosing herewith the copy of the Metallurgical Report of May 3, 1943, on the representative sample of ore from the Hack group of claims, which you requested me to return.

Yours very truly,

Harlow D. Phelps,
Mining Engineer.

Enclosure -

cc - Mr. Hedges
Phelps files

ARIZONA TESTING LABORATORIES

ANALYTICAL AND CONSULTING CHEMISTS
ASSAYERS, MINING ENGINEERS

823 EAST VAN BUREN STREET

ASSAY CERTIFICATE

PHOENIX, ARIZONA, April 26 1943

Mr. P. H. Ramsden

Phoenix, Arizona.

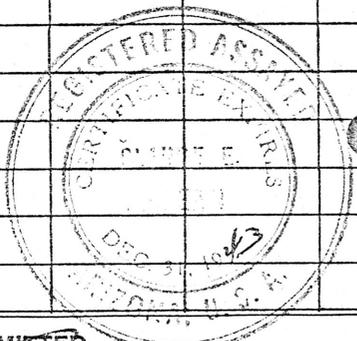
WE HAVE ASSAYED THE SAMPLES RECEIVED FROM YOU AND FIND THE RESULTS AS FOLLOWS:

GOLD FIGURED AT \$ _____ PER OUNCE.

SILVER FIGURED AT \$ _____ PER OUNCE.

LAB. FORM 2

LAB. NO.	SAMPLE	GOLD		SILVER		PERCENTAGES		
		OZ. PER TON	VALUE	OZ. PER TON	VALUE	COPPER	LEAD	
47522	#1 <i>Drum</i>					5.20%		
47523	#2 <i>Shaft</i>					14.00%		



RESPECTFULLY SUBMITTED,
ARIZONA TESTING LABORATORIES
BY Claude E. McLean
Claude E. McLean ASSAYER

CHARGES \$ 2.00

#124

Tucson, Arizona
November 16, 1942

ACCESS ROAD APPLICATION RECOMMENDATION

Our Application No. 24

*Should be Mohave County
1942*

Identification: Through Grazing Service; their application dated August 19, 1942; metals - copper; property - Hack mine; in Sec. 27, T. 37 N., R. 5 W., Coconino County, Arizona.

A. F. Jensen, Travelers Inn, Fredonia, Arizona, Claimant; J. T. Woodard, Glendale, Utah, lessee.

Proposal: 25 miles type 2 bulldozer, grader road from Sec. 19, T. 37 N., R. 5 W., on a CCC road to the mine; 5 miles of construction, 20 miles maintenance.

Comment: The mine is located at the bottom of Hack Wash, a box canyon cut about 1200 feet below the plateau level. Five miles of former road down a tributary canyon was completely destroyed when a dam near the head of the canyon burst. The cost of constructing a new road down this canyon is estimated at \$20,000 to \$25,000. Ore was formerly taken out to the canyon rim over a 1500-foot aerial tram, which is being repaired. The road from the top of the tramway is in good condition.

Description of Mine: The ore is a secondary deposition of copper in the talus of material that fell from the canyon wall and rests on the sloping surface of red sandstone at the base of the cliff. The talus is cemented by calcareous material. Two to six feet of this cemented talus at its contact with the underlying red sandstone is mineralized with copper carbonate and some calcite. The deposit appears to be about 100 feet long.

There is a 60-foot shaft, sunk vertically for 40 feet to the sandstone footwall and inclined along the footwall for 20 feet more. A drift extends 20 feet north from the bottom of the shaft. The ore exposed in the drift contains about 5 percent copper. A very short drift south from the bottom of the shaft exposes ore with more chalcocite than that in the north drift. The drift is at the water level and the chalcocite content is higher in the bottom.

About 2 car loads of approximately 25 percent copper ore was shipped during the last war. The mine has lain idle since then but is being reconditioned now.

Conclusion: The ore body is a small replacement deposit in cemented talus near the bottom of a gorge 1600 feet deep. Total future production will probably not exceed 1000 tons shipping ore. This will

not justify the building of a costly road down into the canyon. An
aerial tramway for transporting the ore to the rim of the canyon, at
the end of the present road, is being reconditioned.

Recommendation: Approval of the application is not recommended.

J. H. HEDGES

J. H. Hedges,
District Engineer.

Mr. C. H. Sweetser

District Engineer, Public Roads Administration

No. 16

426 Federal Building, San Francisco, California

(address)

Dear Sir;

*Should be Mohave County
L.H.*

The provision of access road (s) to a source of raw materials in

Coconino

County,

Arizona

is considered to

(State)

be of importance to the war effort. The raw materials source is known as

Hack Mine -- Copper

and is situated Sec. 27, T. 37 N., R. 5 W.

Information can be obtained locally from A. F. Jensen

Travelers Inn, Fredonia, Arizona

Claimant

(Name)

(Title)

Investigation by

(Bureau of Mines - Geological Survey)

shows

*Face level of road is 100 feet above
the ground*

(information as to ore, content, extent, etc.)

Study by Grazing Service, Department of the Interior shows that 25

(Service - Office)

miles of Type 2 bulldozer, grader type road between CCC Road at

Sec. 19, T. 37 N., R. 5 W.

and Sec. 27, T. 37 N., R. 5 W.

will be required, estimated to cost \$ 2500.00

Upon completion of the access road(s), the property will be

developed by J. T. Woodard, Lessee Glendale, Utah

(Name, title, address)

Request is made for cooperative 5 miles construction, 20 miles maintenance

(construction, maintenance, improvement)

by the Grazing Service, Dept. of Interior

(Service or office)

By L.R. Brooks Name

L. R. Brooks, Regional Grazier Title

503 Heard Bldg., Phoenix, Ariz. Address

The (Bureau of Mines - Geological Survey) considers the proposed

work to be justified by the potential production from this source of raw material.

By

Name

Title

Address

See page 24

Snake Mine Copper.

box

Mine located in bottom of Snake Wash - a canyon cut about 1200' below mesa level -

Mine is timber frame from canyon wall, cemented with lime. ~~mine~~ The footwall is the surface of red sandstone, ~~at~~ at the bottom of the cemented pieces with the ss above 2' inc' is mineralized with copper carbonate and some chalcocite. ~~Have~~ Have shipped about ^{2 cars} 20% Cu ore. Deposit about 100' long, 60' high, north drift from bottom 20' - a few feet south, similar ore but higher in chalcocite. Since last war, starting work. Do not believe can produce more than 1000 T. Now just at water level, chalcocite increasing time.

5 miles of old road down a tributary canyon was completely washed out when the dam on a reservoir near the head of the canyon failed. Proposed 5 mi. of road would probably cost \$25,000.00. Oxen was formerly taken out over 1500' aerial tram. This is being repaired and is only practicable trail. The roads to the top of the tramway goods.

Disapprove,