CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
520-770-3500
http://www.azgs.az.gov
inquiries@azgs.az.gov

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325 Heard Building
Phoenix, Arizona

September 29, 1943

Re: Docket No. ND 5797
George W. Long

TULLY, Asst. Chief - Mining Section - RFC- Washington

Enclosed please find two copies of Supervising Engineer's Report and one copy of original application.

WM. B. MAITLAND
Supervising Engineer

Encs -

2 c Sup. Eng. Rep.
1 c Orig. App.

RECONSTRUCTION FINANCE CORPORATION
MINING DIVISION
REPORT OF SUPERVISING ENGINEER

Docket No. ND-5797
Date Authorization for Exam.Rec'd Sept.17,1943
Date of Exam. Incl. Sept 22,1943
Date of Report Sept. 29,1943

1. NAME AND ADDRESSOF APPLICANT

Name.....	George W. Long
Address.....	118 E. Coronado Road
City & State.	Phoenix, Arizona.
Correspondent	Same

2. CHARACTER OF PROJECT

To mine a developed copper ore body exposed in two drifts from a 125' inclined shaft.

3. LOCATION OF MINE

Name of Mine..... Cactus Queen
Township, Range, Section - T11N, R-14W-G.& S.R.B. & M.
Mining District, County, State-Owens Mining District, Mohave County, Arizona
Name and distance by road nearest railway station - Congress Junction a station on the Santa Fe Railway is 54 miles southeast of the mine
Condition and seasonal accessibility of road,mine to railway - A level well graded dirt road accessible at all times of the year connects the mine with the shipping point.

4. APPLICANT

The applicant is an experienced practical miner about sixty years old. Together with Jack McIver he made a small fortune about twenty years ago when they discovered and developed the United Eastern Mine later bought by the Seeley Mudd interests. Since that time he has been developing and operating small mining properties in Arizona. I believe him to be entirely competent and should make this project a success. He has a small crew of Mexican miners who have been employed intermittently by him for many years.

5. LOAN REQUESTED

The application calls for a loan of $10,000, but after visiting the mine with the applicant and discussing the project with him, he has agreed that $7,000 will be sufficient to put the property on production. It is my opinion that a loan of $7,000 is justified for this mine.

6. DESCRIPTION OF PROJECT

A. Legal Considerations

The property consists of form patented claims owned in fee simple by Geo. W. Long and J.L.McIver. McIver, in the attached letter has given his consent to this loan.

The mine has two exits so it should comply with all state mining laws.

Applicant states he has no outstanding debts or obligations.

B. Existing Development

The mine is developed by means of an adit level connecting with an inclined shaft that has levels at 100' below and 125' below the adit. All of the workings are accessible as the country rock is very hard. The ore is exposed in the adit, shaft, and in the 100' level. Attached to this report are three maps of the workings.

The shaft contains skids, ladders, and a small inside ore bin in the shaft and above the adit level. The adit and the 100' level contains track and tram cars. There is a few hundred feet of 2-inch pipe stored on the 125' level.

C. SURFACE IMPROVEMENTS

There are no surface imppovements and no mill is contemplated for this project. About five miles from the mine there is located a small group of cabins that could be rented to house the men working at the mine.

D. GENERAL GEOLOGY OF AREA

The basement rocks consist of Archean schists overlain by sedimentaries which have been intruded by later lava flows of andesite and rhyolite. Many small areas are covered by recent basaltic flows.

Only a few miles from the mine is found the famour Artillery Peak Manganese Mine and in this region are a number of small deposits of gold, silver and copper.

E. ECONOMIC GEOLOGY OF DEPOSIT

The main ore shoot occurs as a lense of ore following a minor fault zone in the andesite although there is some evidence of replacement also. The ore shoot which

the applicant intends to mine extends from the adit level to the 100' level but does not reach the 125' level. Between these two lower levels there occurs a change of formation and the contact as exposed only in the shaft appears to be a flat contact showing some evidences of fault movement. The rock below the andesite appears to be a dense hard rhyolite and shows no evidence of mineralization. The ore does not extend above the adit level but it is found in the upper part of the shaft and for the full width of the hoistway in the shaft. On the 100' level the footwall of the ore is found on the floor of the drift but at no place on this level has the hanging wall of the vein been reached. The average sampled width of the ore is 3.8 feet. It is possible that the ore shoot below the 100' level flattens out and is found just above the rhyolite contact and in the andecite. If this is the case, it is possible to have a very large tonnage of ore in the mine. On the other hand if the contact is an overthrust fault, it is possible that the ore terminates as shown on the map. In any event there is at least 1700 tons of ore in this shoot that assayed 4.52% copper. In addition there are two other smaller showings of ore on the adit level that would warrant a small amount of deeper development by means of small winzes. Also on the dump, there is about 500 tons of ore assaying 2.38% copper that could quite likely be sorted to 300 tons of 3-1/2% copper ore and would then pay to ship under the new premium price of 25.4¢ per pound (17¢ plus a special premium of 8.4% already granted)

The ore is composed of altered andesite containing malachite and minor azurite. Copper sulfate coats the walls of all workings in the ore and must be thoroughly cleaned off before samples are taken. Sample No. 44 showing the highest copper content (7.26%) also contained a small amount of chalcopyrite so it is possible that the deeper sulfide ore will be higher grade than the oxide ore now exposed. The ore is also very heavy in specular hematite. The ore is very soft and the walls are hard so mining costs should be low.

Attached hereto is an assay sheet and smelter sheet as well as an assay map.

F. Ore Reserves

Attached hereto are three maps of the mine and an assay certificate. I estimate that the mine contains at least 1700 tons of ore averaging 4.52% copper. No deduction was considered necessary to allow for dilution as the vein is undoubtedly wider than measured since the hanging wall has not been reached on the 100' level. By a small amount of sorting of the ore a grade of 4.1% should be maintained.

Smelter Account for Ore (Phelps Dodge-Clarkdale)

G. Economic Considerations

Applicant intends to mine the main shoot by means of a shrinkage stope. He intends first to drive two short crosscuts to determine the position of the hanging wall on the 100' level and then drop down to the 125' level and drive 3 untimbered raises up into the ore above and then eventually stope out the 100' level. This will leave 12' high waste pillars above the haulage level and thus allow all the ore to be mined without timbering the back of the drift. Unless new ore is discovered the pillars to be left along the sides of the shaft will be mined last. The only development work done will be done by means of following the ore while stoping.

I believe mining costs will not reach $5.00 per ton but to be conservative I have used that as an estimate.

Besides the applicant only four men will be employed. They are 1 hoistman, 1 trammer (shoveler) and two miners.

It will take about four weeks to prepare the mine for stoping and after that it is expected that the mine will produce 25 tons per day so it will take about six months to exhaust all of the ore in sight.

Smelter Payment for Ore (Phelps Dodge - Clarkdale)

4.1% = 82 lbs. - 10 = 72 lbs. x $0.09275 = 6.68

Bonus Payment on Copper

82 lbs. x 97% = 79.5 x $0.05 first bonus = 3.98
82 lbs. x 97% = 79.5 x 0.084 second bonus-6.68
Total payment for ore.....17.34

Marketing Charges

Smelter charge	2.75	
Trucking 54 mi. to Congress Junction.....	4.00	
Railroad frt. Congress Junct. to Clarkdale	1.25	
Taxes.....	0.15	
Total marketing charges.....		8.15

Net value of ore at mine bin	9.19
Less estimated mining cost per ton.....	5.00
Estimated net profit.....	4.19
Estimated net profit for 1700 tons	$7123.00

7. PROPOSED EXPENDITURES

Rent on compressor 90 days	$580.00
Purchase 1 jackhammer & 1 stoper (used)	430.00
Steel & bits	150.00
Purchase 1 air tugger hoist	685.00
500' of 2" pipe & fittings	130.00
600' of rails	85.00
Air hose	85.00
Construct 30-ton wood ore bin (outside)	800.00
Rent on camp for men	200.00
Trucking advance & prepaid railfreight first shipments	500.00
Payroll 60 days 5 men @ $200/mo.	2000.00
Insurance Deposit	300.00
Purchase of fuel & supplies 60 days	500.00
Reserve for contingencies	555.00
Total for loan	$7000.00

8. COMMENTS OF SUPERVISING ENGINEER

If copper is still needed for the War Effort, I believe a loan as indicated should be granted this project. While the amount of ore now exposed in the mine is not large the geology of the deposit is favorable for the extension of the ore laterally.

I believe that this project is worthy of consideration for the following reasons:

1. Applicant is a competent small mine operator.

2. Only small amounts of equipment and labor will be necessary.

3. The ore can be shipped directly to the smelter.

4. Under the new premium price for copper already granted this mine the operation should show a profit.

5. No development work is necessary and the shipping of ore can start within a month after operations begin.

WM. B. MAITLAND
Supervising Engineer.

Report of Supervising Engineer

Docket No NV 5797
Date Authorization for
Exam Rcd Sept 17, 1943
Date of Exam dsch. Sept 22, 1943
Date of Report

1. Name and Address of Applicant

Name - George W. Long
Address - 118 E. Coronado Road
City & State - Phoenix, Arizona
Correspondent - Same

2 Character of Project

(1) To mine a developed copper ore body exposed in two drifts from a 125' inclined shaft

3. Location of Mine

Name of Mine - Cactus Queen
Township, range, section - T11N, R 14W G&SRB&M
Mining District, County, State - Owens Mining District, Mohave Co, Arizona
Name and distance by road nearest railway station - Congress Junction a station on the Santa Fe Railway is 54 miles southeast of the mine
Condition and seasonal accessibility of road, mine to railway - a level well graded dirt road accessible at all times of the year connects the mine with the shipping point.

4 applicant

The applicant is an experienced practical miner about 65 years old. Together with Jack McElver he made a small fortune about 20 years ago when they discovered and developed the United Eastern Mine later bought by the Seeley Mudd interests. Since that time he has been developing and operating small mining properties in Arizona. I believe him to be entirely competent and should make this project a success. He has a small crew of Mexican miners who have been employed intermittently by him for many years.

(2)

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The basement rocks consist of archean schists over lain by sedimentaries which have been intruded by later lava flows of andesite and rhyolite. Many small areas are covered by recent basaltic flows.

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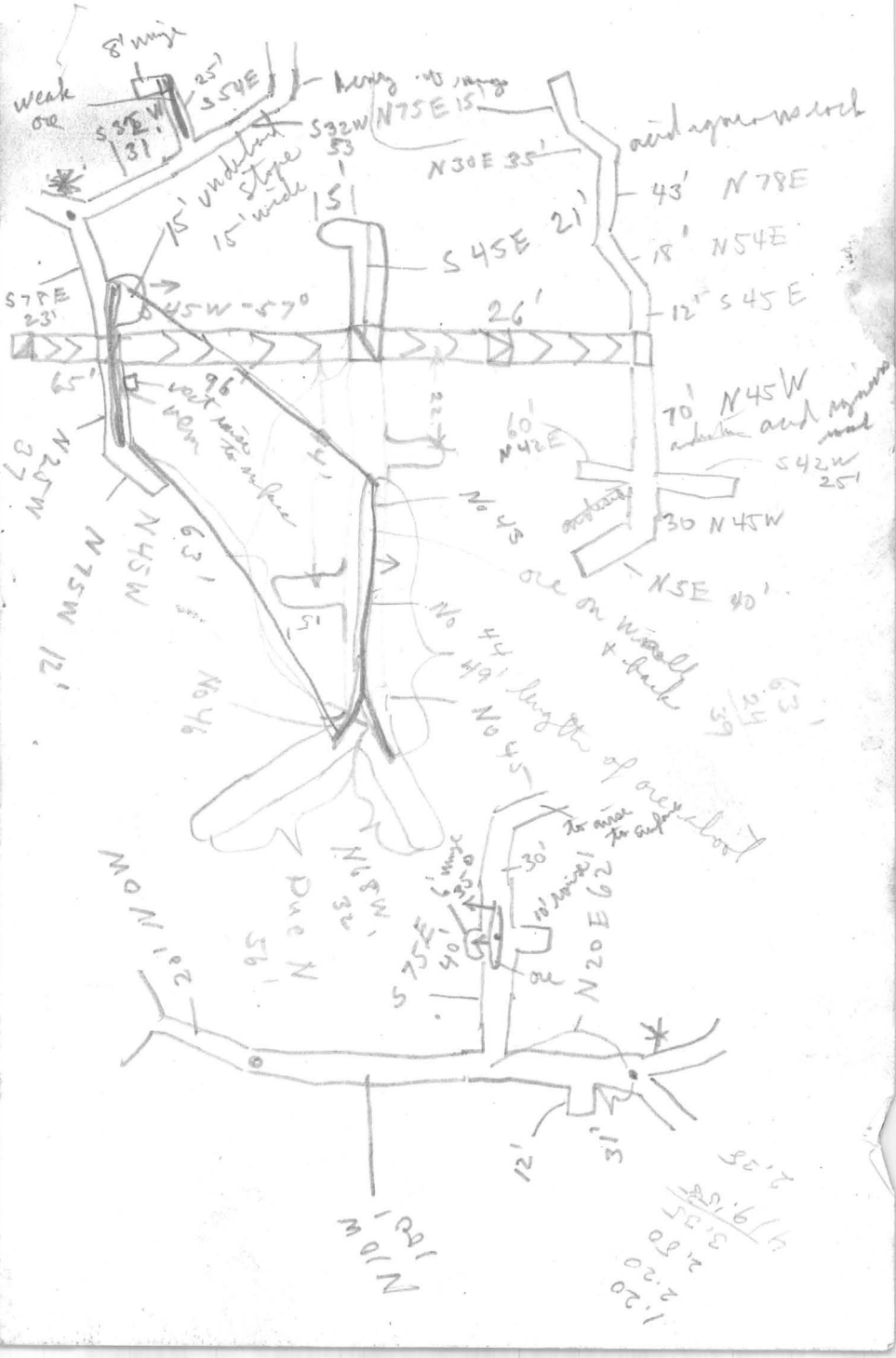

8' wide
weak ore
25'
S54E
S32W 31'
S32W 53
N75E 15'
N30E 35'
15' underlined stope 15' wide
15'
S45E 21'
43' N78E
18' N54E
12' S45E
S78E 23'
S45W -57°
26'
65'
96'
vert raise to surface
N25W 37
N45W
63'
N75W 12'
15'
No 43
No 44
49' length of ore shoot
No 45
No 46
N68W 32'
Due N 56'
S75E 40'
6' wide 35'
30'
10' raise
N20E 62'
ore
N10W 100'
12'
31'
70' N45W
60' N42E
S42W 25'
30 N45W
N5E 40'
ore on wall & back

4

80
25
20.00
8
1700
8
13,600

5

2.50
3.50
1.50
4.50
12.00

25.4
17
8.4

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Smelter payment for Ore (Phelps Dodge - Clarkdale)

(6) 4.1% = 82 lbs − 10 = 72 lbs × $0.09275 = 6.68

Bonus Payment on Copper

82 lbs × 97% = 79.5 × $0.05 first Bonus = 3.98

82 lbs × 97% = 79.5 × 0.084 second Bonus = 6.68

Total payment for ore 17.34

Marketing charges

Smelter charge	$2.75
Trucking 54 miles to Congress Jct	4.00
Railroad freight Congress Jct - Clarkdale	1.25
Taxes	0.15
Total marketing charges.	8.15
Net value of ore at mine bin	9.19
Less estimated mining cost @ $5 per ton	5.00
Estimated net profit	$4.19
Estimated net profit for 1700 tons	$7,123.00

Probable net profit from 500 tons on dump @ 2.3% allowing $2/ton for loading

0375
12

45

46

36.

3.34
5.98
9.32
8.15
1.07

G Economics Considerations

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Purchase 1 jackhammer + 1 stoper (used)	430.00
Steel + Bits	150.00
Purchase 1 air trigger hoist	685.00
500' of 2" pipe + fittings	130.00
600' of rails	85.00
Air hose	85.00
(8) Construct 30 ton wood ore bin (outside)	800.00
Rent on camp for men	200.00
Smelting advance + prepaid railfreight first shipment	500.00
Payroll 60 days 5 men @ $200/mo	2000.00
200 Insurance Deposit	300.00
Purchase of fuel + Supplies 60 days	500.00
Reserve for contingencies	555.00
Total for loan	$ 7000.00

32
26
192
64
832

8 Comments of Supervising Engineer

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1. applicant is a competent small mine operator.

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4 Under the new premium price for copper already granted this mine the operation should show a profit

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Wm B Martin