

4590 0001

77  
item 1

RENO OFFICE  
RECONSTRUCTION FINANCE CORPORATION  
MINING SECTION  
FIELD REPORT

Docket No. Reno N-44

Date Application Received

August 6, 1943

Date of Examination

August 12, 1943

Date of Report

August 27, 1943

NAME AND ADDRESS OF APPLICANT

Nevada Lead & Zinc Company  
218 Felt Building  
Salt Lake City, Utah

Correspondent:

George W. Snyder  
218 Felt Building  
Salt Lake City, Utah

LOCATION OF MINE

Spruce Mountain Mining District, Elko County, Nevada.

CHARACTER OF PROJECT

It is proposed to reopen a lead-zinc mine that has been abandoned for about 12 years in order to recover ores said to have been left in mine because they were either too low grade at the time, or contained too much zinc.

APPLICANT'S INTEREST IN, OR OWNERSHIP OF PROPERTY

The corporation is owner of the property which consists of one patented and five unpatented locations.

CHARACTER OF APPLICANT

The Nevada Lead & Zinc Company is apparently controlled and managed by the W. F. Snyder and Sons Company of Salt Lake City, Utah. The latter are operators on a fairly large scale of mines in Pioche, Nevada, and Haley, Idaho, and are known as a substantial mining concern.

LOAN REQUESTED

\$20,000.00.

LOAN RECOMMENDED

\$10,000.00.

INTRODUCTORY

The writer in company with Mr. Overton, engineer from the Reno Office, visited the Killie Mine of the Nevada Lead & Zinc Company on Spruce Mountain on August 12, 1943, accompanied by Mr. Earl B. Young, geologist for the Snyder Company, and Mr. George A. McHugh, assistant to the Vice President of the Snyder Company.

The property is described in detail, with supporting maps, by Francis Cameron, geologist for Anaconda Copper Mining Company, in two reports dated December, 1926, and August, 1927. There are also reports by Earl B. Young, engineer-geologist for the Snyder Bros. and Sons Company of Salt Lake, F. C. Schrader in University of Nevada Bulletin No. 7, Vol. XXV, 1931, and in the recent correspondence between G. A. McHugh, Asst. to the Vice President of the Snyder Company, and various parties. These men knew, and examined

the mine at a time when it was a going concern. At this date, 12 years or more after the mine has been practically abandoned, there is little to see.

The main shaft is open only to the 70 foot level, which connects with the Latham tunnel that was driven primarily to tap the workings below the glory hole. Only part of these are open for inspection. Timbers are rotted and the ground is caved to such an extent that no information of definite value can be obtained.

The samples taken were for checks on those offered in support of the application by McHugh. These are shown in Table I. With the exception of the dump sample, they are merely indicative, and carry little weight in the final analysis.

The supporting data is quite voluminous, but lacks the definite information required to evaluate the ores now remaining in the mine. This report is more or less a recapitulation of the information furnished by Applicant, in addition to the meager data obtained on the ground.

#### DESCRIPTION OF PROJECT

In the original application it was proposed to expend \$20,000 as follows:

1. Road repair, preliminary from Spruce Mountain to the mine . . . . .	\$ 500.00
2. Repair Latham Tunnel and install chutes and raises for drawing ore between tunnel and surface . . . . .	1,000.00
3. Repair new shaft on Nicholas Claim, install hoisting equipment and sink to ore zone probably 25 feet, cut station and explore ore zone - say 300 feet of work . . . . .	5,500.00
4. Diamond Drill from surface to prospect for copper ore in footwall of the large Northeast porphyry dike and for possible zinc-lead ore bodies below the 160 level of the Killie twelve holes - 30 - 400 feet deep - 4,000 feet @ \$3.00 per foot . . . .	12,000.00
5. Administrative and Engineering Expense . . . . .	1,000.00
Total	<u>\$20,000.00</u>

In discussing these with McHugh and Young, it was tentatively agreed that Item 1 be eliminated entirely; that Items 2 and 3 be combined in one item substituting the Main Shaft for the Nicholas shaft; that Item 4 be eliminated entirely, as it was based upon the assumption that a copper body 60 feet wide, carrying 2% Cu, was exposed in a tunnel on one of the claims. Our examination of this revealed a body 2 to 4 inches wide, 60 feet long. Item 5, of course, became excessive.

After exploring the 70 foot level and part of the Latham tunnel, the writer requested Mr. McHugh to submit detailed cost estimates for repairing the shaft and 70 foot level. These were received later and are submitted herewith. It will be noted, however, that it includes the reopening of the shaft to the 120 ft. level, together with the 70, 89, 120 and 160 levels, a total of 1270 linear feet at a cost of \$13,859.80.

#### TONNAGE

Cameron in his report of December, 1926, estimates the production prior to that date at 30,000 tons. He states that "there is an

excellent possibility" that there are in excess of 4000 tons of "gob" in the old stopes. His samples of this indicated the following metal content: Ag 4.7 oz., Pb 14.6%, Cu 1.45%, Zn 10.7%. He recommended screening this ore to make a higher grade product.

In his report of August, 1927, he lists the average grade shipped (1612.78 tons) during the previous year as: Ag 5.99 oz., Pb-Zn 25.58%, Cu .72%, all coming from below the 70 level, but states that the average Zn content on the 160 ft. level had dropped to 6%.

The Young report, which is dated May 8, 1931, credits the mine with a production of 4659 tons between January, 1927 and December, 1930, having a metal content of Ag 5.54, Pb 22.91, Zn 12.78, and Cu 1.035. In the McHugh letter to Mr. Strobel it is stated that this ore was produced by selective mining, and that ore high in zinc was cobbled out and stored in the stopes. If this is the fact, it would indicate that Cameron's 4000 tons of gob still remains in the mine, plus an additional tonnage accumulated in the clobbering process.

According to the application it was originally intended to draw ore from the glory hole through the Latham Tunnel. This was to obtain some "quick tonnage". The glory hole is about 80 feet long, 50 feet wide, and 20 feet deep. (Schrader's report, 1931, says it was 60 feet deep.) The side walls are loose, crumbly limestone, standing vertical for about 5 feet at the rim below which point talus fills the pit from all sides. It is the Applicant's belief that the bottom and lower sides of the pit contain ore in place, and discarded cobbings high in zinc content. To the writer this belief seems not well founded, nor substantiated by factual evidence.

In the supporting data submitted to Mr. Strobel it is stated that there are from 30,000 to 50,000 tons of ore reserves containing Ag 2.5, Zn 12.0, Pb 4.0, Cu 1.0, as shown in the reports of Frank Cameron and E. B. Young. The writer is unable to find such a statement in either report.

Mr. McHugh states that "according to our assay maps there is an approximate 3000 - 5000 tons of low grade left in the mine that will assay: 1% Cu, 10% Pb, 10% Zn, 2 to 3 oz. Ag, 40% insol." The assay maps were not submitted with the application, unless he refers to the Cameron maps of 1926, which, however, are not complete enough to compute tonnages. It is the writer's opinion that the 1st and 2nd class ores estimated by Cameron are not included in his "gob", and have most likely been mined since.

TABLE I							Location - Remarks
Sample No.	Oz. Ag	% Pb	% Zn	% Cu	Width feet	Sampler	
390	1.8	3.5	39.0		1.0	Stoddard)	Glory Hole Zn blossom
5	0.36	.3	27.4	.37	5.5	McHugh )	" " " "
391	0	5.2	21.0			Stoddard	Dump Cob from Glory Hole
392	2.2	4.0	10.6			Stoddard)	Grab ore only, Glory Hole
9	5.94	5.6	10.8	.60		McHugh )	" " " "
393	1.2	0.8	7.8	.80	12'	Stoddard)	Latham Tunnel
10	1.1	.0	12.2	3.0	"	McHugh )	" "
394	1.2	1.8	14.5	2.5		Stoddard)	Latham Tunnel muck, below 393
11	.58	1.3	16.1	1.5		McHugh )	" " " "
395	2.6	4.0	5.3	.40	4	Stoddard)	Latham Tunnel westend of shoot
13	4.0	12.4	8.6	1.30	4.0	McHugh )	" " " "
396	1.2	5.8	5.3		10'	Stoddard	Latham Tunnel small stope, south side.
					Hor.		
397	2.2	7.5	5.0			Stoddard)	Latham Tunnel Grab - chute
12	2.6	7.4	8.6	1.30		McHugh )	" " " "

The McHugh samples are reported on Page 2 in letter to Mr. Strobel.

Samples 390 and 5, represent a remnant on the north side of pit to

which no tonnage can be attached. No. 391 represents 300 + tons on dump. No. 392 and No. 9 were taken from pieces of ore which were mixed in with talus detrital along sides and bottom of pit. They represent no tonnage. Nos. 393 and 10 were taken horizontally in Latham tunnel where the vein is exposed above caved ground. The length is 12 feet, width or thickness unknown. Nos. 394 and 11 is grab from fines filtered down through coarse gob from above. Nos. 395 and 13, from a small exposure in caved area 40 feet west of 393. No. 396 is a horizontal sample in back of small flat slope west of 395. Nos. 397 and 12 are grabs from a chute that is supposed to reach up into the glory hole. Nos. 393 to 397, and 10 to 13 are all from the Latham tunnel, and are the only places in the mine accessible for sampling.

TABLE II

Metal Contents Noted In Various Reports

Author	Line	Oz. Ag	% Pb	% Zn	% Cu	Tons	
Cameron	(1)	8	35.2	10.4	1.0	400	First class, year 1926
"	(2)	3.72	18.88	15.96	1.6	1000	Second " " "
"	(3)	4.7	14.6	10.7	1.45	4000	Gob " " "
McHugh	(4) 2 to 3	10.0	10.0	1.0		3000 5000	6/21/43 letter to Strobel
Letter to E. H. Snyder	(5)	2.5	4.0	12.0	1.0	30,000 50,000	7/14/43
E. B. Young	(6)	5.54	22.91	12.78	1.03	4,659	Ore shipped between 1/'27 & 5/'31

It is now not known whether the ores noted in lines 1, 2 and 3, that were depleted in mining the 4859 tons in line 6. Values in line 4 are hypothetical, and tonnage is based on Cameron's estimate, line 3. This also applies to line 5.

Mr. McHugh stated to the writer that he expected to mine four or five thousand tons of ore that would carry 10% Pb and 10% Zn. If it also carried 2.5 oz. Ag, and 1% Cu, it would worth, under their contract with the International Smelting & Refining Company, \$11.07 per ton. Add 72 cents credit for iron and lime, and the total value is \$11.77. Penalties would be as follows: Insoluble \$5.50, deficient Pb \$1.50, Zn \$2.00, total \$9.00, leaving \$2.77. Treatment charge is \$3.60, resulting in a loss of \$0.83 per ton.

Application has been made for a "B" premium on Pb, Zn and Cu. Assuming that premiums on Pb and Zn are granted, and that Applicant's figures are correct, \$19.36 is added to the value per ton.

\$19.36 minus \$4.00 (transportation) leaves \$14.53 for mining and development.

Applicant's estimate of mining costs ranges from \$0.00 to \$10.50 per ton. It may be reasonably assumed, then, that a profit of \$4.00 per ton can be made on ore analyzing:

Ag	Pb	Zn	Cu	Fe	CaO	Insol.	
2.5 oz.	10%	10%	1%	6%	6%	40%	with "B" pre- miums on Pb and Zn.

In the application submitted, no claim is made to any definite tonnage or values, however, reference is made to reports and maps of Cameron, and Young. These maps depict no tonnages, but values, and it seems apparent that all estimates are now based upon the Cameron report of 1926.

At the writer's request the Applicant has submitted a detailed cost estimate, as follows:

### Install Compressor

Compressor and Receiver no charge  
Freight on 3000 lbs. Mercur to Spruce Mountain  
@ 12.10 per ton \$ 18.15

### Installation

Foundation - 5 yds. Concrete @ \$20.00 100.00  
Bolts, etc. 6.80  
Labor - 5 days 2 men @ \$7.70 77.00  

---

Total \$201.95

### Install Hoist

Hoist and Cable no charge  
Freight on 4000 lbs. Mercur to Spruce Mountain  
@ 12.10 per ton 24.20

### Installation

Foundation - 4 yds. Concrete @ \$20.00 80.00  
Bolts, etc. 9.60  
Labor - 8 days 2 men @ \$7.70 123.20  

---

Total \$237.00

### Head Frame

Add 10 ft. to present head frame  
Additional supports and angle frame ties and  
anchor with rope and close in at top

Timber 2752 Bd. Ft. @ \$43.00 118.33  
Lumber 2000 " " @ \$43.00 43.00  
Nails 8.80  
Bolts 32.40  
4 Guy Ropes - Wire no charge - Tension Bolts 16.70  
4 Dead Men - Material and making 20.00  
Labor - Head frame 12 days 3 men @ \$7.70 277.20  
" - Guying frame one man 3 days @ \$7.70 23.10  

---

Total \$539.53

50 Ton Ore Bin including foundation and  
chute gate @ \$17.00 Ton 850.00

### Compressor, Blacksmith Shop & Hoist Building 20' x 16' x 10'

Timber & Lumber 2336 Bd. Ft. @ \$43.00 100.44  
Nails & Bolts 36.00  
Roofing Paper 16.30  
Windows 13.60  
Roof Jack 2.10  
Labor - 10 days 3 men @ \$7.70 231.00  

---

Total \$399.44

### Water Line from Spring to Camp

2" Pipe - No charge  
Labor installing 1800 ft.  
2 men 3 days @ \$7.70 30.80  
Ditching with Caterpillar 40.00  
Covering Trench with Caterpillar 40.00  
Rehabilitating old Water Tank  
Material 18.00  
Labor - 2 men 1 day @ \$7.70 15.40

Installation of pump and pipe through  
large Water Tank to small Water Tank

at Compressor House - Pump and Pipe  
no charge - Small water Tank and  
Fittings no charge  
Labor - 1 man 1 day  
Material

7.70  
8.60

Total

\$158.50

### Install Air Line

From Compressor Air Receiver to 120' level  
pipe and fittings no charge  
Labor - 3 men 4 days @ \$7.70

92.40

### Clean out Shaft & Timber where necessary to 120' level

Timber 7220 Bd. Ft. @ \$43.00  
Nails & Bolts  
Labor - 3 men 20 days @ \$7.70  
Wedges 2000 @ \$12.00 M

310.48  
30.20  
462.00  
24.00

Total

\$856.66

### Retimbering Levels

70' Level	530 lin. ft.
89' "	240 " "
120 "	300 " "
160 "	300 " "

Total

1270 lin. ft. 6' Sets 230

Sets -

Timber necessary to set 139 bd. ft. x 230  
Sets - 32,970 bd. ft. @ \$43.00  
Labor - 2 men 230 days @ \$7.70  
Nails

\$1,417.71  
3,542.00  
128.00

Total

\$5,087.71

### Laying 1370' Track

Track - Bolts, Spikes Furnished  
Labor - 2 men 60 days @ 7.70  
450 Ties 4 x 6 x 3' - 3800 bd. ft.  
@ \$43.00

924.00

163.40

Total

\$1,087.40

### Installing Ore Chutes for Stopes

10 Chutes -  
Labor - 2 men 20 days @ \$7.70  
Timber 273 ft. x 10 - 2730 @ \$43.00  
Nails, Bolts, etc.  
Wedges 1 M @ \$12.00

308.00  
127.39  
31.80  
12.00

Total

\$479.19

### Installing Shaft Ore Chutes @ 70', 89' and 120' 160' Levels 4

Labor - 2 men 20 days @ \$7.70  
Timber 332' x 4 - 1352 bd. ft. @ \$43.00  
Nails, Bolts, etc.  
Wedges

308.00  
58.14  
18.90  
3.00

Total

\$388.04



Haulage on Lumber Wells, Nevada to property  
 52 miles @ .10 ton mile \$5.20 per ton  
 65,160 bc. ft. weighs approximately 93 tons  
 @ \$5.20

\$483.60

Recap.	Freight	Eqpt.	Labor	Material	Total
Install Compressor	\$ 18.15	\$	\$ 127.00	\$ 56.60	\$ 201.95
" Hoist	24.20		163.30	40.60	237.00
Head Frame			310.30	229.23	539.53
Ore Bin			425.00	425.00	850.00
Compressor, Blacksmith & Hoist Bldg.			168.44	231.00	399.44
Water Line		80.00	53.90	24.60	158.50
Air Line			92.40		92.40
Clean out Shaft			462.00	394.66	856.66
Retimbering Levels			3542.00	1547.71	5089.71
Laying Track			924.00	163.40	1087.40
Installing Ore Chute in Stope			308.00	171.19	479.19
Installing Shaft Ore Chutes			308.00	80.04	388.04
Freight on Lumber	483.60				483.60
Totals	525.95	80.00	6884.24	3371.23	10861.42
Ins. F.O.A. U.S. Exp. Comp.			688.42		688.42
Totals	\$525.95	\$80.00	\$7572.66	\$3371.23	\$11549.84
10% Management					1154.98
10% Contingencies					1154.98
					\$13859.80

#### RECAPITULATION

A recapitulation of all the factors brings out the following:

- (1) The Applicant is controlled by a corporation that operates on a fairly large scale in other districts.
- (2) The physical examination of the property revealed conditions such that it was apparent to all that a loan was not likely to be granted to carry out the original purposes stated in the application.
- (3) It is now proposed to completely rehabilitate the old workings down to and including the 160 ft. level at a cost of \$13,859.80.
- (4) The justification is based upon a report of Francis Cameron, geologist for the International Smelting & Refining Company, made in December, 1926, wherein a possible tonnage of 4000 tons of ore was estimated.
- (5) It is not certain that that ore remains in the mine.
- (6) Estimates of from 30,000 to 50,000 tons of probable or possible ore are not justified.
- (7) The property can not be worked at a profit without a "B" premium on lead and zinc.
- (8) Application for such premium has been made.
- (9) With the premium a \$4.00 per ton profit is indicated.
- (10) It would require 2500 tons to repay a loan of \$10,000.

#### CONCLUSION

It seems to the writer that a decision to grant a loan in this case hinges upon whether or not it can be accepted as a fact that there are 4000 tons of marketable lead-zinc ore remaining in the mine.

Mr. McHugh in the Strobel letter mentions that 3000 - 5000 tons of "proven ore", yet offers no evidence that is conclusive at this

date. It is true that Mr. McHugh quotes a conversation with the former manager to the effect that ore high in zinc was discarded in the gob in order to keep the Zn content below 15%, but that can not be taken at its face value, as the former manager is now an old man whose memory is admittedly unreliable. Yet opposed to this is Cameron's statement that the zinc content on the 160 ft. level had dropped to 8%.

#### RECOMMENDATION

The writer is inclined to recommend a loan up to \$10,000.00, provided it is established that zinc is still greatly needed in the war effort. Also provided that the work first be confined to rehabilitating the mine to the 120 foot level and repair of the 120 foot level, and that any further extension of the work down to lower levels be contingent upon the success or encouragement found on the 120 ft. level.

This recommendation is made with the full realization that the proposition is speculative, in that it is a question of evidence as to the quantity and value of broken ore remaining in the mine.

*Carl Stoddard*

---

CARL STODDARD  
Supervising Engineer



No	Ag	Pb	Zn	Cu	width	
393	1.2	0.8	7.8	0.8	12'	
394	1.2	1.8	14.5	2.5	6' x 6'	MUCK
395	2.6	4.0	5.3	0.4	4'	
396	1.2	5.8	5.3		12'	
397	2.2	7.5	5.0		6' x 6'	CHUTE

