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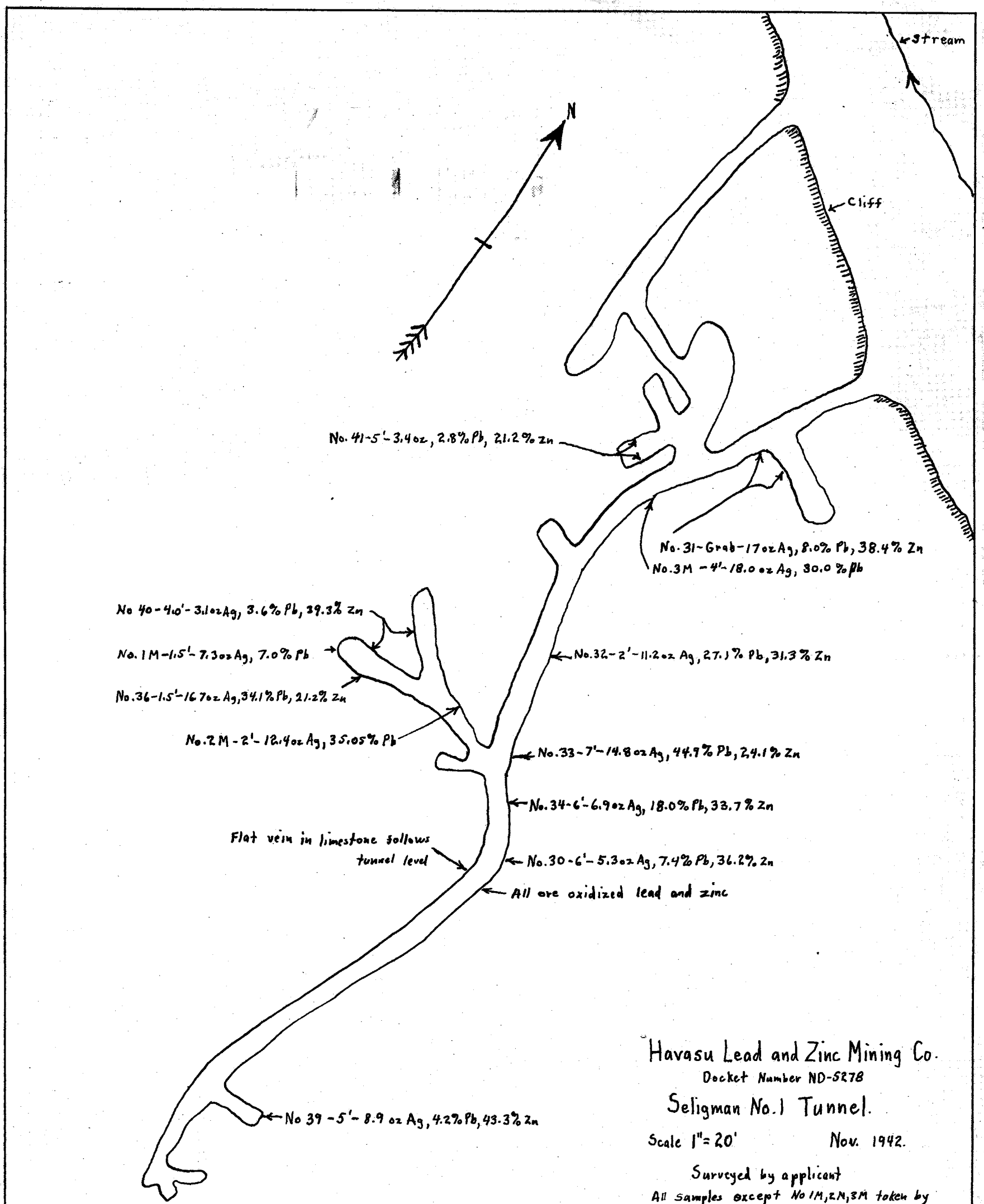


Havasu Lead and Zinc Mining Co.

Docket Number ND-5278

Seligman No. 1 Tunnel.

Scale 1" = 20' Nov. 1942.

Surveyed by applicant

All samples except No 1M, 2M, 3M taken by applicant

Traced by Wm. B. Maitland

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Granted

Mine 'HAVASU LEAD & ZINC MNG. CO.-Pb., Zn., V_2O_5 Date January 8, 1943

District Unknown Engineer Earl F. Hastings

Subject: Reconstruction Finance Corporation
Preliminary Development Loan

Docket No. C-ND-Phoenix 123
Date Application Received January 7, 1943
Date of Report January 8, 1943

1. Name and address of applicant (correspondent):
'Havasu Lead & Zinc Mining Co.
'R. M. Sanderson, Secretary, Goodwin, Arizona.

2. Character of project and estimated cost thereof:
'Pb., 'Zn., V_2O_5. Rehabilitate and/or make accessible workings on the Bridal Veil, 'Seligman and 'Pyramid claims. $4,600.00.

3. Location of property:
Cataract Canyon, 50 miles west of Grand Canyon, in Coconino County, Arizona.

4. Applicant's interest in or ownership of property:
Applicant is corporation holding bond and lease @ 7½% royalty.

5. Loan requested:
$4,600.00.

6. Loan recommended:
$4,600.00.

7. Comments:
(A) Major equipment items are on the premises and the property is in preliminary operation at the present time.

(B) The mine is accessible by 8 miles of trail, a condition which penalizes operations through excessive freight costs on incoming supplies and outgoing ore.

(C) The estimated value of combined first and second class ore, $81.00 per ton as stated on page S - 2, cannot be reconciled. First class shipping ore of the grade claimed will yield, on the basis of current American Smelting and Refining Company, El Paso smelting schedules, as follows:

Pb.	50% - 1.5% = 48.5% pb. - 10% = 43.6% pb.	
	43.6% = 872 lbs. x (6.5¢ - 1.6¢) =	$42.72
Ag.	12 ozs. - ½ oz. = 11.5 ozs. - 5% = 10.87 ozs.	
	10.87 ozs. x (70.6¢ - 1.5¢) =	7.51
	Smelter Credit.	$50.23
Base smelter chg.	$3.50	
Excess over $15 value =	5.00 (max.)	
Cr. - 48.5% - 30% = 18.5% @ 10¢	= $1.85	3.15
	Net Smelter returns	$47.08
Premium payment		
50% pb. = 1000 lbs. - 5% = 950 lbs.		
950 lbs. @ 2.75¢	=	26.12
	Net returns per ton ore.	$73.20

Second class ore, 34% pb. and 7.5 ozs. ag., would by the same calculation yield $48.74 per ton if shipped now.

(D) The deposition is narrow and flat, a condition which influences both mining costs and the cost of developement per ton of ore developed. It is believed that production costs of first class shipping ore will approach $50.20 per ton, distributed as below.

Mining	$ 8.00
Dev. and preparation	4.00
Packing	20.00
Hauling	5.00
Freight	8.00
Royalty (on $38.20)	2.79
Sales tax, sacks, etc.	2.21
Total direct cost	$50.20

The last five items will, of course, be materially reduced per ton by concentration of lower grade ores.

(E) On shipping ore there appears an operating profit balance of $23.00 per ton. Claim is made of 500 tons blocked and 1000 tons probable of this type of ore. There is therefore between $10,000 and $34,000 operating profit to be gained by shipment, with a lead production of between 200 and 600 tons.

On the basis of shipping ore possibilities the loan appears warranted, although the calculations of the applicant as set forth on page S - 4 are over optimistic.

(F) Second class and mill grade ore should be reserved until a sufficient tonnage is in sight to warrant the erection of a small concentrator. The budget set forth in (D) above covers some development, and more can be accomplished with proceeds from the sale of ore. This should allow the operator to keep abreast of extraction and develope both shipping and milling ore. Milling ore is not a major factor in the evaluation of the property at the present stage and condition of development and is consequently not analyzed in this report. It can become an important factor in the near future however.

(G) Zinc, V_2O_5, and Icelandic Spar are not herein considered of great importance in the light of present knowledge concerning them.

The zinc exposure is entirely undeveloped, and the possible occurrence below the lead horizon is a geological possibility, though a favorable one, only.

The V_2O_5 occurrence should receive more sampling and study. The writer is not inclined to accept the values as set forth in the McEvenny report for the reason that recent check sampling in numerous mines by the U. S. Vanadium Co. has disclosed a 90% discrepancy in actual content through faulty assaying by the average assay office. Until the value and continuity of the vanadium ore can be more definitely established its value cannot herein be credited.

The Icelandic Spar is not sufficiently described as to quality and quantity to be credited to the profit possibilities of the property. If it exists in a clear optical grade in 1 1/8" discs or 2" rhombs the trimmed useable section is worth $40.00 per pound if not twinned.

While zinc, vanadium, and calcite have production possibilities each requires the application of more study and work.

Recommendation of this loan is based exclusively on lead production possibilities; the evidence submitted indicating a sufficient tonnage and grade of shipping ore together with a favorable prospect of blocking enough lower grade ore to warrant a small concentrator.

ARIZONA DEPARTMENT OF MINERAL RESOURCES

Earl F. Hastings
Assistant Director and
Projects Engineer

Progress Report

Havasu Lead & Zinc Mining Co.

Docket No NDS 278

On April 1943 this project was granted a $7500 loan in order to mine and ship high grade lead ore. On Aug 8, 9, and 10 I inspected the property in order to ascertain the progress being made. At the time of my visit the applicant had already spent all of the loan funds and had shipped one car of ore to the El Paso Smelter. The 55.4895 dry tons ran 13.1 oz silver and 64.8% lead with a net smelter value after deducting treatment charges, freight and royalty of $3360.79 with a premium of $1878.75 or a total value of $5239.54 for the car. The net smelter value of the ore was $62.26 per ton without the bonus or $94.42 per ton with the bonus. The applicant does not intend to apply for further funds as he believes that the first shipment will pay for further development.

The applicant now has another car load of ore sacked and ready for shipment with half the ore at the rail siding and the other half still to be packed to the top end of the truck road.

As of ~~April~~ Aug 1 the payrolls have amounted to $3314.82 and supplies and equipment expenditures were $4185.18. The applicant attempted to use the shoshans to pack out the ore and bring in supplies but

after considerable trouble he found this method very unsatisfactory as the elevators would not work steady. The packing rate is $20 per ton for the 9½ miles and he has expent to date a total of $2512.64 for packing of ore and supplies which is too high. He intends to purchase them outside financing 24 mules to pack the ore. I estimate that the mine contains at least three more ~~cars~~ cars of lead ore but unless there are sufficient pack animals to handle from 2 to 3 tons per day the production of ore will not show a profit.

Following is an estimation of the costs per Ton based on the results from the first car:

Approximate value per ton at smelter	$90.00
Mining cost estimated	$10.00
Packing	20.00
Hauling by truck	8.00
10 Rail freight	5.00
10 Supervision + overhead	8.00
Total estimated cost	$41.00
Probable net profit on 3 tons/day basis	$49.00
Estimated net profit for 250 tons still in sight	$12,250.00

250
49
225 50
1000
123 50

The applicant has installed car and track in the mine, built an ore bin and packing platform at the tunnel portal, and ~~contract~~ partly completed the construction of a camp consisting of four small cabins. No machine is used to mine the ore as it is very soft. The ore is sacked at the mine portal:

Following is an approximate distribution of the expenditures to date:—

Purchase of 2000 ore sacks	470.00
Purchase of pack equipment (pack saddles, bags, blankets)	829.18
Camp construction	500.00
Ore stoping cost (approx 110 tons ore)	1049.85
Supervision (labor)	662.10
Packing of ore and supplies	2512.64
Trucking ore to railroad (approx 70 tons)	546.35
Freight advance on ore	206.00
Misc expense + overhead	722.88
Total expenditures	$ 7500.00

642.64
100.00
86.54
829.18

Attached to this report is the assay and certificate. Sample No 1A taken across 2' a composite sample of representing the ore in the face of the stopes along both sides of the winze on the second level of the Bridal Veil Workings. This assayed 17.2 oz of silver, 61.40 % lead, and 1.70 % zinc. This is the type of ore the applicant is now mining and will ship in the future. The other samples were taken by the applicant in the Third Level of the Bridal Veil Workings. He is preparing a map of this Third Level and when this map is completed I will forward same to Washington with the location of these samples shown thereon. These samples indicated that the ore at depth is changing from lead to zinc and since the zinc is objectionable it will be difficult to market the ore.

3.50%

also enclosed is a map of the Selagosa No 1 Tunnel which contains considerable oxidized ore in the form of nearly pure hydrozincite and smithsonite. The ore also contains a small amount of cerussite. The applicant has sent a sample of this ore to the International Smelting and Refining Co of Salt Lake City and they have agreed to accept 2 cars per month of carbonate ore. If the applicant obtains a sufficient tonnage on both the lead and zinc it is quite probable that the mine would produce a considerable tonnage of this ore. However I have advised the applicant to concentrate on the Bridal Veil lead ore and ship all of that ore first as we know that it can be shipped at a profit. The bottle neck in this operation is the packing of the ore up to the end of the road and until this problem is solved no new work should be started.

It is my opinion that if this applicant can ship from 2 to 3 tons per day this project will be successful. It is difficult to impress on ~~this~~ him that a steady and continuous production is necessary ~~to as mentioned~~ before ~~and progress go on~~ a profit can be made.

Wm P Maitland
Sup Eng

Supervising Engineers Report — Hawaiian Lead & Zinc Mining Co

Docket NO 5278

On Jan 7 and 8th I examined the above captioned project in order to inspect the progress being made. This examination of the mine and an investigation of the financial aspects of the loan was deemed necessary when this office was informed by various merchants and creditors that the applicant had thousands of dollars of debts outstanding

The following work has been accomplished to date under the loan:-

30755
30348
407

1. applicant has constructed a small warehouse at Hilltop which is the end of the road and the beginning of the trail to the mine

2. The applicants compressor has been dismantled and partly packed down to the mine

(1)

3. a small office, bunk house, shower room and living house has been constructed at the mine

4. a horse coral has been built at the mine.

5. at the Bridal Veil Workings there has been constructed a small ore bin

6 At the Selignman Workings the applicant has constructed a small ore bin, horse coral and has built the foundation for a calcining plant. During the time of my visit only one man was working at the mine. He was lowering the grade of the Selignman

trenched using hand steel. These workings are in the lead-zinc carbonate ore and to date none of this ore has been shipped

Bridal Veil Workings

The applicant has mined all of the available high grade lead shipping ore exposed in these workings. Our records show that he has shipped 155 tons of ore to the El Paso Smelter and he claims to have about 9 tons of ore left at the railroad siding at Peach Springs. He has done no development work whatsoever so all that remains in the mine is a limited amount of low grade ore that must be concentrated before it can be shipped. I believe however that more shipping ore can be developed here as the same structure continues past the present faces. Past operations have indicated that the ore occurs as high grade lenses of lead ore separated by lower grade "milling" ore all found along a favorable limestone bed. The applicant has already removed all of the rails from these workings so he probably intended to abandon the mine workings after stripping all of the high grade ore. I believe further work is justified in these workings.

(2)

Seligman Workings

No new development work has been done here altho the applicant is preparing to start mining by covering the tunnel level at the portal, installing an inclined tram from the valley floor to the tunnel portal a vertical distance of about 30 feet, and constructing a small ore bin. The original program did not call for the development of these workings as they contain a lead-zinc carbonate ore that is not saleable ~~In all the~~ except to special ~~such~~ reduction plants such as the one at Coffeyville, Kansas. However I have seen correspondence (3) from the applicant to the ~~from~~ ~~that~~ The O'Yards ~~Mining~~ & Smelting & Mining Co of Coffeyville, Kansas that they will pay 3 1/2 ¢ per pound of contained lead and zinc in ores averaging over 40% combined lead and zinc.

The applicant submitted to this office a schedule from the Metals Reserve Co granting him the A, B and C premiums on Zinc and the A and B on lead, all retroactive to July 1, 1943. On this basis the lead-zinc ore ~~which~~ should gross at the smelter about $100 per ton which under proper management should net a handsome profit.

Attached to this report is a composite sample of at least 12 faces of ore in the Seligman workings and these faces averaged 2 feet in width and assayed 7.10% lead and 40.0% zinc.

Present Financial Condition of applicant

The attached analysis of the value of the ore shipped to date shows the net profit that could have been made from this operation. The ore is easily and cheaply mined with the low priced Indian labor available so it is not conceivable that the actual mining cost should exceed $10 per ton. Practically no powder is necessary as the ore is soft.

I have talked with most of the unpaid labor and have had a number of conferences with the Indian Agents in charge of the Reservation. In addition I have contacted most of the creditors.

Following is a list of the known creditors:

(4)

Accounts now Due (not shown on Sent Req. or Payrolls)

Wages due Indians on Labor Contracts	173.80
Payroll Indians and two Colored employees	1219.18
Outstanding bills for supplies	3610.78
Govt. property purchased with loan funds and sold by applicant but not credited to loan fund	631.10
First note on $7500 loan due Jan', 1944	2500.00
Amount claimed by Noble Pierce under Packing Contract	1125.00
Total Due + payable	$9259.86

Accounts Receivable + Cash Position

Balance remaining in loan funds	$ 1454.24
10% of Premiums due on last two cars ore	314.36
"B" Bonus due on all ore shipped	$5022.25
Total Credits	$6790.85

Total Expenditure as shown on our records:-

Original loan	$7500.00
Credit on all shipments to date	13065.73
Total receipts	$20,565.73
Total own Sub-Req. approved	$10,655.42
" " Payrolls "	8456.07
Total expenditures	$19,111.49
Balance remaining in loan funds	$1,454.24

From the above record it is apparent that this operation has been anything but successfull. At the present time the U.S. Indian Service is going over the applicants books with them to determine what is owed to the Indians and after this audit is made they will send us a certified statement of wages due. Most of the other creditors have submitted bills to this office and after they have been approved for payment by the applicant they will be added to the approved list of creditors. In other words an attempt is being made to ascertain all of the legitimate debts against this project. In regard to the hay, grain, saddles, pack equipment and other ~~Government~~ R.F.C. equipment sold by the applicant, he has been informed that he must make this good out of his own pocket which I believe however is physically impossible. As to the packing contract with Mobile Pierce, a copy of which has already been sent to Washington, the applicant claims that Pierce owes him money and the pack animals have not been purchased while on the other hand Pierce claims that he has purchased the animals under his contract. I have asked both parties to reach an agreement

and submit it to this office for consideration.

The applicant, Mr R. M. Sanderson, has deliberately committed acts of bad faith against this Corporation, the Canadian Service, his employees, and his creditors. In addition he has deliberately intentionally failed to comply with the Labor and Mining Laws of the State of Arizona. I further believe that he is incompetent to operate this mine and after the present mess is cleared up any further dealings with this applicant by the R.F.C. will be entirely unsatisfactory to this Corporation.

(6)

My investigation of this project brings to light the following ~~cases~~ acts committed by the applicant:

1. He has incurred numerous debts not approved by this office.

2. He has sold equipment purchased by loan funds and deposited the proceeds of such sales ~~to~~ in his personal account.

3. He has signed contracts without the approval of this office.

4. He has purchased equipment to his own account and misrepresented these payments on his statements to us.

5. He cannot account for the payroll deductions which were misrepresented to us.

~~6. We have approved payment of necessary bills but he has never made these payments~~

6. He has in effect kept two sets of

books; fictitious receipts submitted to us and which don't agree with his private accounts.

7 The payroll deductions paid to him so that he could meet his bills were never used for this purpose but were instead deposited in his own account.

It is my opinion that the applicant should be made to pay up all outstanding obligations and then since the mine is still good and should produce in the future a large amount of high grade lead and zinc ore the operation of this project should be taken out of his hands and turned over to a competent operator.

Wm B Mauldin

Shipment No	Dry Short Tons	oz Silver per ton	% lead	Total Pounds Lead Gross Assay	Gross Smelter Value Per Ton	Smelting Charges per ton.	Net smelter Value total	Net Paid Shipper including silver	Net Smelter per Ton Paid shipper	Total Royalty Paid	Total Freight,	(prepaid) Total Trucking + Hauling not deducted	A Premium due 90% Paid	B Premium due.	Total Smelter plus premiums	Total Net per ton to shipper
1 (1741)	55.4895	13.1	648	71,914.4	$64.19	$2.09	$3454.78	$3360.79	$60.57	$93.99	$346.39 Prepaid	$1681.50	$1878.75 Paid	1878.75	7118.29	$128.28
2 (2377)	58.232	13.1	62.3	72,557.1	$61.99	2.49	3464.80	$3042.73	$52.25	88.85	333.22	1764.60	$1895.55 90% paid	$1895.55	$6833.83	$117.35
3 (2904)	41.894	18.38	57.01	47,767.5	60.97	2.90	2432.78	$2043.35	$48.77	137.90	239.97	1087.17	1247.95	1247.95	4539.25	108.35
3 lots	155.6155 tons total	14.52 2259.8 oz total	61.76 % aver.	172,239.0 lb. 1235.31 lb/ton	$62.50	$2.49	$9352.36 $60.10/ton	$8446.87	$54.28	320.74 $2.06/ton	919.58 $5.91/ton	$4533.27 $29.13/ton	$5022.25 $32.27/ton	5022.25 $32.27/ton	$18,491.37	$118.82

Net value of 155.6155 tons after all deducts except mining (All premiums) $13611.78
" " 1 ton " " " " " " $87.47
" " 155.6155 " " " " " (A prem) $8587.46
" " 1 ton " " " " " " $55.20

726.91
762.87
770.01

3509.80
2584.28

Docket No ND-5270
Date authorization for Examination
Received Feb 2, 1943
Date of Examination Feb 25
to Mar 1, 1943
Date of Report March 11 1943

1. Name + Address of Applicant
Name - P. M. Sanderson
Address - Goodwin, Yavapai Co, Ariz
Correspondent - Same.
Mailing Address - Supai, Via Grand Canyon, Ariz and/or 1938 Mill Road, South Pasadena, Calif

2. Character of Project. partly developed
To place on production a lead, silver mine

3. Location of mine - Havasu Mine
Township, range, section - T 33 N, R 4 W G+SR, B + M.
County and State - Coconino Co, Arizona
Name and distance by road nearest railway station - The mine is 62 miles by road north of (Peach Springs) Ante a siding on the Grand Canyon Branch of the Santa Fe Railroad
Condition and seasonable accessibility of road, mine to railway - Of the 62 miles distance 30 miles is graded road and should be accessible at all times of the year. The balance of the distance of 32 miles is

T 33 N
R 4 W

(1)

a graded dirt road that is now being improved by the national government but at the present time it is accessible at all times of year except for a few days after a heavy snow or rain storm. The climate at the mine (which is in the bottom of the Grand Canyon) is ideal for year around operation.

4. Applicant

The applicant R. M. Sorensen is a graduate mining engineer who has had considerable mining experience in the development of mines in the United States and in the Orient. He was formerly employed ~~by~~ as field engineer for M. Guggenheim & Co of London. His mine foreman also has had a ~~large~~ large amount of practical experience in many of the bigger copper mines in Arizona. Both the applicant and his foreman appear to be fully competent to operate this project.

5. Loan Requested

In his application Mr. Sorensen has requested a loan of $20,000 but after thoroughly discussing the project with him he has agreed that a loan of $7500 will be sufficient to put the property on full production.

✓
(2)

6. Description of Project

A General Features

a copy of the Applicants lease accompanies this application. It should be noted that the terms of this lease are favorable as they ask a royalty of only 7½% of the net smelter receipts after deduction for all transportation cost

There are no apparent legal objections to this project.

a title opinion by our attorney also accompanies the application.

B Existing Development

Accompanying the application are a number of maps and sections as well as a voluminous report by the applicant engineer. For this reason I do not consider it necessary to go into the geology and ~~ore reserves~~ development work in too great a detail

Briefly the ore bodies consist of irregular lenses of galena and cerussite in Carboniferous impure limestone. These ore bodies occur in random solution channels in the limestone and dip about 15° to the south.

Erosion caused by a number of tributaries to the Colorado River has cut down several thousand feet thru these horizontal beds of sandstone and limestone of the Grand Canyon Formations and the ore bearing horizon is found in the bottom of the canyon. There are no other mines in this district and no igneous rock exposed in this area that

✓ (3)

could have been the source of the ore bearing solutions

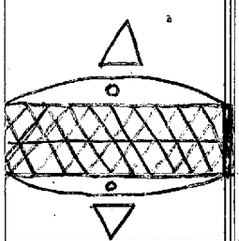
Havasu Havasu Canyon contains all of the numerous ore exposures in its nearly vertical walls. The bottom of this straight canyon is only a few hundred feet wide and at a point just above the unconformity between the Carboniferous limestone above and the Cambrian limestone below one find the ore bodies scattered along a length of over a mile and one half. Where ever ore is found there is a definite slumping of the limestone beds above. There are seven separate workings on different small ore bodies along this canyon. The westernmost of these workings is located 250 feet up the side of the canyon wall and was not accessible to me as the ladders were too old and weak to be safe. The most important ore body is the eastern one called the Bridal Veil and it is from this tunnel that the bulk of ore will be produced.

1500 / 5 / 1500

(4)

On one prospect tunnel on the north side of the canyon my Sample No 4 across 2½ feet ran 33.53% zinc as well as 6.61% lead This is the only place where sphalerite was in evidence. On the Bridal Veil workings at one point there was a trace of oxidized copper present but not in commercial amounts. It has been reported that vanadium occurs in these ore bodies but I do not believe it is commercial as only a few small crystals of vanadinite were observed.

The ore is very clean and can easily be sorted



to produce nearly pure cerrusite and galena shipping ore. Large and nearly transparent crystals of calcite (Iceland Spar) are found in the solution channels cutting the limestone country rock ~~spar~~ but I do not believe these crystals have much commercial value as they are not perfectly clear. The applicant has sent a sample of these calcite crystals to an Iceland Spar ore dealer for testing.

I do not believe that this mine will develope into a large producer as the ore bodies are not veins and do not apparently extend to depth as the lead ore pinches down to only a few inches wide in the bottom workings. But since this type of ore deposit is extremely erratic it is impossible to completely block out ore in advance or predict the probable extend of the mineralization at depth.

The Bridal Veil workings are the only ones considered in this report as they are the only accessible workings containing commercial bodies of developed ore

As can be seen from the attached map I have estimated that the Bridal Veil mine contains 2400 tons of partly developed ore averaging 3.9 feet in width. The average of Samples No 5, 6, 7, 8, 9, 10, 11, 12, and 14) which were taken in this ore ~~body~~ block ~~tonnage averaged~~ ran 14.14 oz silver and 48.27% lead. These were not picked samples but were taken to represent the type of ore which will be mined under this loan.

If the ore is packed on burros 9½ miles from the mine to the top of the Grand Canyon rim,

then hauled by truck 66 miles to Anita a station on the Santa Fe Railroad, and from there by rail to the El Paso smelter the following estimated costs and net profit would apply:—

Value of Ore per ton at Smelter Prices

Silver 14.14 oz − 1.00 oz = 13.14 oz × $0.69125 =	$9.08
Lead 48.27% − 1.50% = 46.77 × 90% × 2000 =	
841.8 lbs × $0.049 =	$41.25
Premium on Lead	
48.27% × 95% × 2000 × $0.0275 =	$25.22
Total payment for metal content	$75.55

Smelter Charges

Base charge	$3.50
Charge for excess over $15 value	3.53
Sulfur penalty	.65
Total	$7.68
Less bonus on Pb over 30%	1.83
Total smelter charges	$5.85

✓ (6)

Transportation Charges

Packing on burros 9½ miles	$14.30/ton
Trucking 62 miles	6.00
Railroad freight	7.95
Total charges	$28.25
Royalty 7½% on net	3.11
Estimated mining cost	$10.00
Reserve for contingent costs	8.34
Total costs of production	55.55
Indicated net profit per ton	$20.00
Estimated net profit on 2400 tons	$48,000

From the above analysis it is apparent that this project can produce ore at a profit in spite of the long ore haul and there is sufficient ore now exposed in the mine to ~~to~~ more than liquidate the loan.

In this type of ore deposit I have not recommended that any new development work be done but instead the ore should be stoped immediately with the idea that during stoping operations ~~new or~~ additional lenses of ore will be encountered.

Estimated Labor Required for Project

The applicant proposes to mine ~~10~~ tons per day. He intends to use all indian labor. The Supai indian tribe numbering over 250 live near the mine and now that tourist travel has nearly stoped there is serious unemployment in this tribe. The indian Agent is very anxious to obtain employment for his charges and dozens of the indians have men have already applied for work. The applicant informed me he has already used them as miners and found them satisfactory.

The following payroll is estimated:—

3 indian miners @ $4.50 / day.
1 surface laborer @ $4.50 / day.
1 Foreman (Ed Engle) $9 / day
1 Supt. (Applicant) $200 per month
Estimated total payroll per day $34.00
" mining supplies $46.00
Total cost per day estimated $80.00
Total cost per ton allowance for mining + development cost per ton $10.00 $8.00

clt is expected to ship ore that runs at least 13 oz. of silver and 35% lead. Any ore mined of lower grade will be stockpiled for a future small mill as it will not pay to ship.

Ore Packing & Estimates

4
26) 115
104
11

The applicant intends to contract with the indians to use their horses to pack a small amount of ore to the truck road. The indians charge $20 per ton for packing, which is much more than the applicants expected cost. Therefore the applicant intends to buy 45 burros at $37 each. A pack saddle costs $15 and a pair of pack bags cost $8. or a total cost per animal of $60. Each burro can pack 200 lbs making one trip per day. The applicant expects that owning company burros the cost per ton of packing ore will be $12.73. Using indians to only pack ore when the company burros are laid up or resting we have estimated that the average cost of packing all the ore will be $14.30 per ton. There are plenty of burros for sale in Arizona

Estimated Expenditures Under Loan

Equipment

45 burros complete with pack saddle & 2 bags	$2700.00
1500 ore sacks	375.00
1 light stoper	385.00
Misc. tools and steel	100.00
Total equipment	$3560.00
Rehabilitate camp buildings & equip same	750.00
Move in applicants compressor + equipment, install same	500.00

Mining Development

Cost to install mine car, chutes, ladders, etc	900.00
Advance on freight for mutual shipments	400.00
Reserve for contingencies	1390.00
Total for loan	7500.00

45
9000
4:50

Economic Consideration

This is a small high grade lead mine that can immediately produce lead ore that is needed by the smelters.

53
15)800
75
50

Mining of the ore is not difficult as the rock stands well and little timber will be needed. The mine has been well developed by means of drifts and raises so it but remains to stope the ore by room and pillar methods.

50

4
8
12
4
48

There is an abundance of cheap labor available ~~at~~ at this project and the skilled labor necessary is now employed at the mine.

Little ~~if~~ scarce equipment will be necessary to be purchased as the applicant now owns ~~at~~ a compressor, jackhammers, trucks, pickup trucks, etc.

The applicant has already sacked, at the mine ready for shipment about 60 tons of ore that assays 70.3 % lead and 27.9 oz of silver.

(9)

This mine should become a steady but small producer of high grade lead ore. No mill is necessary for this project.

The applicant is very capable and should be able to operate this project economically.

Comments of Supervising Engineer

there are no ~~many~~ objections to this project ~~to~~

I believe a loan is justified on this project and there is sufficient ore now exposed but not blocked out in the mine to repay more than 1 the loan.

Wm B Mc[illegible]
Super Supervising Eng.

			our books	Cleared Bank	my addition
Checks never cashed	33		156.65	150	156.65
	31		477.91	361.22 ✓	477.91 ✓ +
				16,529.10	
Payrolls					
		1	319.04	319.04 ✓	319.04 ✓
34.48 should be 10¢ the check record 3438		2	517.25	517.25 ✓	517.25 ✓
		3	452.80	452.80 ✓	452.80 ✓
		5	508.81	508.81 ✓	508.81 ✓
		6	649.91	649.91 ✓	649.91 ✓
		9	450.25	450.25 ✓	450.25 ✓
11.03 check on Suit Reg should be 11.05 as paid		10	392.06	392.08 ✓	392.06 ✓ +
		12	849.89	849.89 ✓	849.89 ✓
19.83 check was cleared as 19.33		12	631.80	631.30 ✓	631.80 ✓ +
		15	500.37	500.37 ✓	500.37 ✓
		15	114.75	114.75 ✓	114.75 ✓
35.24 on Suit Reg cashed as 35.34		15 ✓	755.12	755.22 ✓	755.12 ✓ +
check 88.40 cashed as 80.40 and 251.83 check cashed as 251.84		17	561.49	553.48 ✓	561.49 ✓ +
88.40 check cashed as 80.40 + wrong addition		19	719.87	711.81 ✓	719.81 ✓ +
66.16 check cashed as 18.16 + wrong addition		19	347.16	362.81 ✓	360.81 ✓ +
		19	685.50	685.50 ✓	685.50 ✓
		23	405.06	414.96 ✓	405.06 ✓ +
69.76 check cashed as 69.26		23	362.02	361.52 ✓	362.02 ✓
				9231.75	
				25760.85	
				25760.93 Bank dep	
				.08 Bank Bal	

553.48
301.66
251.82

25760.85
96
25856.85
261.25
26,118.10

Bank

× = on bank statement but different amount

Sub Reg No	Check No	Payee	amt		
2 PR	33	Ralph Podge	34.38	×	
5	41	F.D. Shenk	63.39		
6	48	Lorenzo Sinyella	56.76	×	✓
10	124	Lee Marshall	11.05	×	✓
15	175 PR	Marshall Gilbert	35.34	×	✓
12	148 PR	Dan Hanna	19.33	×	✓
17	200 PR	R.M. Sanderson	80.40	×	✓
17	201 PR	" " "	251.82	×	✓
17	202 PR	" " "	80.40	×	✓
19	217 PR	J.H. McOmie	68.16	×	✓
23	259 PR	Dan Hanna Cralyng	9.90		
23	262 PR	Mark Hanna "	44.61		
23	304	Jack McOmie	69.26	×	✓
31	315	Crawford Baker, Favors	361.22	×	✓

Sub Reg

Sub Reg No	Check No	Payee	amt	
2	33 PR	Ralph Podge	34.48	×
3	41 PR	F.D. Shenk	63.39	
10	124 PR	Lee Marshall	11.03	×
12	148 PR	Dan Hanna	19.83	×
15	175 PR	Gilbert Marshall	35.24	×
17	200 PR	R.M. Sanderson	88.40	×
17	201 PR	" " "	251.83	×
17	202 PR	R.M. Sanderson	88.40	×
19	217 PR	J.H. McOmie	66.16	×
23	304 PR	J.H. McOmie	69.76	×
6	48	Lorenzo Sengella	56.75	×
12	199	Insurance Semi Agy	261.25	
17	184	Ralph Paya	.32	
20	228	C Harold Johnson	96.00	
33	317	Wallin Burns	31.15	
33	318	Gilbert Marshall	29.70	
33	319	Harlow Ygnella	9.90	
33	320	Alva + Jackson Jones	85.87	
34	315	Crawford Baker + Favors	477.91	×

Sub Reg.

Boom	Chadwell Watts Bank	7500.00 ✓
One shipment	" " "	3095.63 ✓
" "	" " "	91.48 ✓
" "	" " "	160.65 ✓
" "	" " "	1878.75 ✓
" "	" " "	2792.05 ✓
" "	" " "	68.41 ✓
" "	" " "	1706.00 ✓
" "	" " "	155.36 ✓
" "	" " "	1994.24 ✓
" "	" " "	1123.16 ✓
" "	" " "	48.16 ✓
" "	" " "	5147.04 ✓
Total actual Deposits		$25,760.93
Cancelling Sub Reg not used		
Sub No12 Insurance Cert Agency		261.25
20	Check No 225	96.00
		26,118.18

671.17
96
575.17

	In Books	Total Cleared Bank	Total my addition	
Cash Reg No 1	200.00	200.00 ✓	200.00	✓
2	368.28	368.28 ✓	368.28	✓
3	642.64	642.64 ✓	642.64	✓
4	496.82	496.82 ✓	496.82	✓
5	320.33	320.33 ✓	320.33	✓
error in making out check 6	1251.75	1251.76 ✓	1251.76	✓
7	56.25	56.25 ✓	56.25	✓
8	430.24	430.24 ✓	430.24	✓
9	—	—	—	
10	690.52	690.52 ✓	690.52	✓
11	728.64	728.64 ✓	728.64	✓
12	261.25 ✓	0	261.25	✓
13	1125.00	1125.00 ✓	1125.00	✓
14	101.60	101.60 ✓	101.60	✓
15	—	—	—	
16	244.00	244.00 ✓	244.00	✓
1 check out for $0.32 17	657.11	656.79 ✓	657.11	✓ +
18	282.71	282.71 ✓	282.71	✓
19	663.73	663.73 ✓	663.73	✓
Check for $96.00 ✓ not issued but cancelled & credit later 20	671.17	575.17 ✓	671.17 ✓	✓ +
21	200.12	200.12 ✓	200.12	✓
22	315.29	315.29 ✓	315.29	✓
23	463.23	463.22 ✓	463.22	✓
Error in Sanderson addition 24	425.50	424.20 ✓	424.20	✓ +
25	464.61	464.61 ✓	464.61	✓
26	566.55	566.55 ✓	566.55	✓
should add to ~~$1639.38~~ $1659.38 $20.00 difference 27	1659.38	1639.38 ✓	1639.38	✓ +
28	434.76	434.76 ✓	434.76	✓
29	505.29	505.29 ✓	505.29	✓
30	2295.98	2295.98 ✓	2295.98	✓
32	24.00	24.00 ✓	24.00	✓

Sample to International Smelting S. & C.

5 oz Ag. 4.2% lead, 35.5% Zinc worth $12.73 at smelter metric tonne. A zero lead + zinc add $18.01

Take 2 cars / mo of carbonate ore

zinc sulfide ore

4.3 oz Ag, 7.2 % Pb 40.1 % zinc

worth $28.26 per ton at smelter + $20.35 for

4 tonnes

Net smelter value per ton $60.47

3355145
170.91
3526.36
829.49 bonus.
$5355.85 total for car.

$96.51 ton

32,9698
32.97

1262 lbs

1198.9 lbs.
03

$3314.52
5186.47
8501.29

7560.00
3314.82
4185.18

30.00

Hawaii

Suit – Req. $7500 loan

Date	Ore Packing	Fat Packing	Fat Ore	Chem Trucking supplies repairs	Misc Dessicate Chemicals	Feed + Fat	Petty Cash	Smuggling Mine	Camp Misc + Packing Repairs	Lab Chemicals
Aug 2 (11)	640.00	88.64								
July 1 (10)	549.25	141.27								
June 20 (9)	—	—	—	—						
June 15 (8)			206.00	222.56	1.68					
June 14 (7)					56.25					
June 2 (6)	470.25	166.33		67.22 75.46	27.22	271.15	217.77	170.04		
May 27 (5)				126.33	58.15				100.00	35.85
May 20 (4)									496.82	
May 10 (3)									642.64	
May 1 (2)		185.75		54.7	21.02				181.51	
April 19 (1)				54.78	21.72		116.28		4.79	
Totals	1659.50	581.99	206.00	546.35	186.04	271.15	116.28	170.04	1425.76	35.85

Total suit – Reqs $5198.96 5186.47 mos lb.

11 Payrolls 3603.89

Total 8802.85

Loan 7500.00

Loss $1302.85

1659.50
581.99
271.15
2512.64

17.50
24

5800
2900

Equipment

48.00
82.50
39.00
1469.50
150
750
8250
6500
6
390
75
6
450
120
36 54.
45
180
144
162

Bought 41 pack saddles	469.50	
" 12 " bags	165.00	
		634.50
36 blankets	162.00	
Pack equipment		796.50
Bought no burros or stoper		
2000 ore sacks	540.00	
Misc tools steel.	100.00	
		1436.50
Rehabilitate camp. Built 1 building &		
1/2 of 2 buildings		300.00
Compressor not moved this		
Mining claims		1900.00
Advance on pat.		206.00
		3842.50
Packing ore		1659.50
" Ft		581.99
Transportation Sunk		546.35
		6630.34

3
29
6000

Packing 600 sacks
Hulltop 400
Mine 400
800
27)1400 tons
135
50

4
6
2
30
10
40
50

Hanson Lead & Zinc

Payroll.

Date	Underground	Surface	Sandtesen Supervising	Boarding House	Jales
7/16/7/31	295.69	17.97	88.40	—	—
7/1-15	93.77	60.65	88.40	156.89	50.54
6/16-30	162.45	0	193.60	274.16	19.70
6/1-15	220.43	98.34	—	187.62	21.82
5/15-31	29.70	224.24	193.60	333.83	5.70
5/1-15	167.58	206.82	—	135.33	7.62
4/21-31	100.23	120.71	98.10	—	—
	1049.85	718.73	662.10	1067.83	105.38

$3603.89

check → 3314.82 Mrs lb.

	29%	20%	18%	30%	3%

42.70
16.50
26.20

42.70
33.00
9.70

8.76
2
241.76
17 52
224.24

142.95
7.62
135.33

3603.89
198.96
8807.85

Get Bank statement from Sandtesen

RECONSTRUCTION FINANCE CORPORATION
MINING DIVISION
PROGRESS REPORT OF SUPERVISING ENGINEER

Docket No. ND-5278
'Havasu Lead & Zinc Mining Co.

In April, 1943, this project was granted a $7500 loan in order to mine and ship high grade lead ore. On August 8, 9 and 10, I inspected the property in order to ascertain the progress being made. At the time of my visit the applicant had already spent all of the loan funds and had shipped one car of ore to the El Paso Smelter. The 55.4895 dry tons ran 13.1 oz. silver and 64.8% lead with a net smelter value after deducting treatment charges and royalty of $3360.79, with a premium of $1878.75, or a total value of $5239.54 for the car. The net smelter value of the ore was $62.26 per ton without the bonus or $94.42 per ton with the bonus. The applicant does not intend to apply for further funds as he believes that the shipments will pay for future development.

The applicant now has another carload of ore sacked and ready for shipment, with half the ore at the rail siding and the other half still to be packed to the end of the truck road.

As of August 1st, the payrolls have amounted to $3314.82 and supplies and equipment expenditures were $4185.18. The applicant attempted to use the Indians to pack out the ore and bring in supplies but after considerable trouble he found this method very unsatisfactory as the Indians would not work steady. The packing rate is $20 per ton for the 9 1/2 miles and he has spent to date a total of $2512.64 for packing of ore and supplies, which is too high. He intends to purchase thru outside financing 24 mules to pack the ore. I estimate that the mine contains at least three more cars of lead ore but unless there are sufficient pack animals to handle from two to three tons per day the production of ore will not show a profit.

Following is an estimation of the costs per ton based on the results from the first car:

Approximate value per ton at smelter		$90.00
Mining cost estimated	$10.00	
Packing	20.00	
Hauling by truck	8.00	
Rail freight	5.00	
Supervision and overhead . . .	8.00	
Total estimated cost		$41.00
Probable net profit on 3 tons/day basis		$49.00

Estimated net profit for 250 tons still in sight.....$12,250.00

The applicant has installed car and track in the mine, built an ore bin and picking platform at the tunnel portal, and partly completed the construction of a camp consisting of four small cabins. No machinery is used to mine the ore as it is very soft. The ore is sacked at the mine portal.

Following is an approximate distribution of the expenditures to date:

Purchase of 2000 ore sacks.	$ 470.00
Purchase of pack equipment (pack saddles, bags, blankets).....	829.18
Camp construction	500.00
Ore stoping cost (approx. 110 tons ore)	1,049.85
Supervision (labor)	662.10
Packing of ore and supplies	2,512.64
Trucking ore to railroad (approx. 70 tons)	546.35
Freight advance on ore	206.00
Misc. expense and overhead	722.88
Total expenditures	$ 7,500.00

Attached to this report is the assay certificate. Sample No. 1 A taken across 2' represents a composite sample of the ore in the face of the stopes along both sides of the winze on the second level of the Bridal Veil Workings. This assayed 17.2 oz. of silver, 61.40% lead, and 1.70% zinc. This is the type of ore the applicant is now mining and will ship in the future. The other samples were taken by the applicant in the Third Level of the Bridal Veil Workings. He is preparing a map of this Third Level and when this map is completed I will forward same to Washington with the location of these samples shown thereon. These samples indicate that the ore at depth is changing from lead to zinc, and since the zinc is oxidized it will be difficult to market the ore.

Also enclosed is a map of the Seligman No. 1 Tunnel which contains considerable oxidized zinc in the form of nearly pure hydrozincite and smithsonite. The ore also contains a small amount of cerrusite. The applicant has sent a sample of this ore to the International Smelting and Refining Company of Salt Lake City and they have agreed to accept two cars per month of carbonate ore. If the applicant obtains a sufficient bonus on both the lead and zinc it is quite probable that the mine would produce a considerable tonnage of this ore. However, I have advised the applicant to concentrate on the Bridal Veil lead ore and ship all of that ore first as we know that it can be shipped at a profit. The bottle neck in this operation is the packing of the ore up to the end of the road and until this problem is solved no new work should be started.

It is my opinion that if this applicant can ship from two to three tons per day this project will be successful. It is difficult to impress on him that a steady and continuous production is necessary before a profit can be made.

WM. B. MAITLAND
Supervising Engineer

325 Heard Building
Phoenix, Arizona
May 2, 1944

Mr. A. M. Crawford
Attorney at Law
Prescott, Arizona

Re: Havasu Lead & Zinc Mining CO.
Docket No. 5278

Dear Mr. Crawford:

Received your letter of May 1st, and wish to thank you for the information contained therein. Mr. Riccardi has just left this office and he stated that he was interested in taking over the Havasu mine. He showed me what is purported to be a statement from Mr. Sandersen in which he transfers to Riccardi all his right, title and interest in the Havasu Mine; and the party informed me that you were acquainted with this document. Since we are mere children when it comes to points of legal transactions, I would like to impose upon you to keep us from getting into any jackpots over this transfer of ownership.

It seemed to me that there would be some question of whether Sandersen is able to sell the assets of the Corporation without the permission of the stockholders; and I also do not know, but perhaps you do, what stock interest Sandersen actually does have in the Corporation.

Mr. Riccardi is going to write us a proposal which we will send to Washington for approval, and I have instructed Riccardi to mail a copy to you, as we feel that you must be informed as to every move that is made in this deal. This proposal will state that Mr. Riccardi has bought out the interests of the Havasu Lead & Zinc Mine Company and that he agrees to pay us ten per cent of the net smelter returns from the mine, including ten per cent of all premiums payable on the ore. I believe that such a deal will be approved by Washington.

Mr. Riccardi also informed me that he intended to put Mr. Harry Grove in charge of the operation, but since Riccardi has never seen the mine, it was useless for me to discuss any future plans of operation. So Riccardi will send Grove in to see me and at that time I will discuss with him the disposition of the burros.

Mr. Riccardi stated that he had sent some money to John Crow of the Indian Service, to pay for labor performed by the Indians

after the mine was shut down. I cannot understand this as we, I believe, have also paid for this labor.

Riccardi further stated that he intended to post $1000 with the Supai Indian Agent and let the Indian Agent make the payrolls. This arrangement, I believe, would be satisfactory but (confidentially) I know nothing of Mr. Ricardi, his finances, or his methods of operation and therefore I believe that we should proceed with some caution.

I hate to put a lot of this work and worry on your shoulders but, as you know, we have no one in Arizona that we can turn to for legal advice and it takes a long time to get any assistance from our legal Department in Washington. Therefore, I would appreciate it if you would advise us in the future as to your opinion on the legality of the proposed transfer between Havasu and Riccardi in order that we will not be getting into another Sandersen mess.

We have still, as yet, never seen Sandersen; and if Riccardi's contract with Sandersen is valid, I hope we do not have to have any further dealings with Mr. Sandersen. Mr. Riccardi also informed me that he was going to take care of any outstanding obligations owed you by Mr. Sandersen, which I think is only fair that he should.

With kindest personal regards, I am,

Sincerely yours,

Wm. B. Maitland
Supervising Engineer

WBM/b

325 Heard Building
Phoenix, Arizona

January 31, 1944

Mr. Noble Pierce
Box 101
Seligman, Arizona

Dear Slim:

Received your letter of January 28th and was glad to hear from you. I am sorry that you have had so much trouble and wish that I knew of a job handy for you, but the trouble is that all the jobs I know of are in mining and not around Seligman.

Don't pay any attention to rumors you hear about the horses or the burros in regard to Sandersen, and don't make any move until you get a letter from either Mr. Gohring or myself, regardless of what Sandersen or anyone else tells you. I understand that Sandersen is now down at Supai. I don't feel that you should take any orders from Mr. Sandersen until he has settled completely with you. I will be glad to make a settlement for you with Mr. Sandersen in regard to your contract but I was afraid that I could not answer all the questions that he might ask in regard to this contract, so I thought that if you happen to see him - as much as you dislike the job - you might be able to hash the thing out with him better than I could.

We are going to try and have it settled as soon as possible so that you will know what to do, as I appreciate that the delay is costing you money, but everything is in such a mess and Sandersen moves so slowly that it is going to be difficult to finish the job soon. Mr. Sandersen informed me the last time I saw him that he had intended to make a settlement with you through his attorneys, but I told him that we were not interested in any lawsuits or attorney settlements, and I requested him to make settlement himself and strictly on a fair and equitable basis, without recourse to law and the courts.

If you get the burros in your name, I will send you the complete release so that you can do anything you wish with them. Of course Sandersen now still claims the burros and does not think he owes you anything, but this will all come out in the wash when we make the settlement.

In any event, sit tight; do not pay any attention to what rumors you hear; and I will personally see that you get a square deal.

With kindest personal regards,

Sincerely yours,

WM. B. MAITLAND
Supervising Engineer

WBM/b

325 Heard Building
Phoenix, Arizona
January 14, 1944

TULLY - Ass't. Chief - Mining Section RFC - Washington, 25, D. C.

Re: Havasu Lead and Zinc Mining Co. - Docket No. MD-5278

Enclosed find my Progress Report, in duplicate, on the above captioned docket.

WILLIAM B.MAITLAND
Supervising Engineer

WBM:dem
Encs.
Supervising Engineer's
Progress Report - in
duplicate

RECONSTRUCTION FINANCE CORPORATION
MINING DIVISION
PROGRESS REPORT OF SUPERVISING ENGINEER

Havasu Lead & Zinc Mining Co.
Docket No. - ND-5278

On January 7th and 8th, I examined the above captioned project in order to inspect the progress being made. This examination of the mine and an investigation of the financial aspects of this loan was necessary when this office was informed by various merchants and creditors that the applicant had thousands of dollars of debts outstanding.

The following work has been accomplished to date under the loan:-

1. Applicant has constructed a small warehouse at Hilltop which is the end of the road and the beginning of the trail to the mine.

2. The applicant's compressor has been dismantled and partly packed down to the mine.

3. A small office, bunk house, shower room, and living house have been constructed at the mine.

4. A horse corral has been built at the mine.

5. At the Bridal Veil Workings there has been constructed a small ore bin.

6. At the Seligman Workings, the applicant has constructed a small ore bin, horse corral and has built the foundation for a calcining plant. During the time of my visit only one man was working at the mine. He was lowering the grade of the Seligman tunnel using hand steel. These workings are in the lead-zinc carbonate ore and to date none of this ore has been shipped.

Bridal Veil Workings

The applicant has mined all of the available high grade lead shipping ore exposed in these workings. Our records show that he has shipped 155 tons of ore to the El Paso Smelter and he claims to have about 9 tons of ore left at the railroad siding at Peach Springs. He has done no development work whatsoever so all that remains in the mine is a limited amount of low grade ore that must be concentrated before it can be shipped. I believe, however, that more shipping ore can be developed here as the same structure continues past the present faces. Past operations have indicated that the ore occurs as high grade lenses of lead ore separated by lower grade "milling" ore all found along a favorable limestone bed. The applicant has already removed all of the rails from these workings so he probably intended to abandon the mine after stripping all of the high grade ore. I believe further work is justified in these workings.

Seligman Workings

No new development work has been done here although the applicant is preparing to start mining by lowering the tunnel level at the portal, installing an inclined tram from the valley floor to the tunnel portal, a vertical distance of about 30 feet, and constructing a small ore bin. The original program did not call for the development of these workings as they contain a lead-zinc carbonate ore that is not saleable except to special reduction plants such as the one at Coffeyville, Kansas. However, I have seen correspondence to the applicant from the Ozark Smelting and Mining Co. of Coffeyville, Kansas, that they will pay 3½¢ per pound of contained lead and zinc in ores averaging over 40% combined lead and zinc.

The applicant submitted to this office a schedule from the Metals Reserve Company granting him the A, B and C premiums on zinc and the A and B on lead, all retroactive to July 1, 1943. On this basis, the lead-zinc ore should gross at the smelter about $100 per ton, which under proper management should net a handsome profit.

Attached to this report is a composite sample of at least 12 faces of ore in the Seligman workings and these faces averaged 2 feet in width and assayed 7.10% lead and 40.0% zinc.

Present Financial Condition of Applicant

The attached analysis of the value of the ore shipped to date shows the net profit that could have been made from this operation. The ore is easily and cheaply mined with the low priced Indian labor available so it is not conceivable that the actual mining cost should exceed $10 per ton. Practically no powder is necessary as the ore is soft.

I have talked with most of the unpaid labor and have had a number of conferences with the Indian Agents in charge of the Reservation. In addition, I have contacted most of the creditors.

Following is a list of the known creditors:

Accounts now due (not shown on Sub-Req. or Payrolls)

Wages due Indians on labor contracts	$ 173.80
Payroll Indians and two white employees	1,219.18
Outstanding bills for supplies	3,610.78
Gov't. property purchased with loan funds and sold by applicant but not credited to loan fund	631.10
First note on $7500 loan due Jan. 1, 1944	2,500.00
Amount claimed by Noble Pierce under Packing Contract	1,125.00
Total Due and Payable	$9,259.86

Accounts Receivable & Cash Position

Balance remaining in loan funds	$1,454.24
10% of Premiums due on last two cars ore	314.36
"B" Bonus due on all ore shipped	5,022.25
Total Credits	$6,790.85

Total Expenditures as shown on our records:-

Original Loan	$ 7,500.00
Credit on ore shipments to date	13,065.73
Total Receipts	$ 20,565.73
Total of our Sub-Reqs. approved	$ 10,655.42
Total of our Payrolls approved	8,456.07
Total Expenditures	$ 19,111.49
Balance Remaining in Loan Funds	$ 1,454.24

From the above record it is apparent that this operation has been anything but successful. At the present time, the U. S. Indian Service is going over the applicant's books with him to determine what is owed to the Indians and after this audit is made, they will send us a certified statement of wages due. Most of the other creditors have submitted bills to this office and after they have been approved for payment by the applicant, they will be added to the approved list of creditors. In other words, an attempt is being made to ascertain all ofthe legitimate debts against this project. In regard

to the hay, grain, saddles, pack equipment and other R.F.C. equipment sold by the applicant, he has been informed that he must make this good out of his own pocket which I believe, however, is physically impossible. As to the packing contract with Noble Pierce, a copy of which has already been sent to Washington, the applicant claims that Pierce owes him money and the pack animals have not been purchased, while on the other hand Pierce claims that he has purchased the animals under his contract. I have asked both parties to reach an agreement and submit it to this office for consideration.

The applicant, Mr. R. M. Sandersen, has deliberately committed acts of bad faith against this Corporation, the Indian Service, his employees, and his creditors. In addition he has intentionally failed to comply with the Labor and Mining Laws of the State of Arizona. I further believe that he is incompetent to operate this mine and after the present mess is cleaned up any further dealings with this applicant by the R.F.C. will be entirely unsatisfactory to this Corporation.

My investigation of this project brings to light the following acts committed by the applicant:-

1. He has incurred numerous debts not approved by this office.

2. He has sold equipment purchased by loan funds and deposited the proceeds of such sales in his personal account.

3. He has signed contracts without the approval of this office.

4. He has purchased equipment to his own account and misrepresented these payments on his statements to us.

5. He cannot account for the payroll deductions which were misrepresented to us.

6. He has in effect kept two sets of books; ficticious receipts submitted to us which do not agree with his private accounts.

7. The payroll deductions paid to him so that he could meet his bills were never used for this purpose but were instead deposited in his own account.

It is my opinion that the applicant should be made to pay up all outstanding obligations and then since the mine is still good and should produce in the future a large amount of high grade lead and zinc ore, the operation of this project should be taken out of his hands and turned over to a competent operator.

WILLIAM B. MAITLAND
Supervising Engineer

Shipment No.	Dry Short Tons	Oz. Silver Per Ton	% Lead	Total Pounds Lead Gross Assay	Gross Smelter Value Per Ton	Smelting Charges Per Ton	Net Smelter Value Total	Net Paid Shipper Including Silver	Net Smelter Per Ton Paid Shipper
1 (1741)	55.4895	13.1	64.8	71,914.4	$64.19	$2.09	$3454.78	$3360.79	$60.57
2 (2377)	58.232	13.1	62.3	72,557.1	$61.99	$2.49	$3464.80	$3042.73	$52.25
3 (2904)	41.894	18.38	57.01	47,767.5	$60.97	$2.90	$2432.78	$2043.35	$48.77
3 lots	155.6155 tons total	14.52 2259.8 oz. total	61.76 % Aver.	192,239.0 Lbs. 1235.3 lbs/ton	$62.50	$2.49	$9352.36 $60.10/ton	$8446.87	$54.28

Total Royalty Paid	Total Freight	(Prepaid) Total Packing and Hauling Not Deducted	"A" Premium Due 90% Paid	"B" Premium Due	Total Smelter Plus Premiums	Total Net Per Ton To Shipper
$ 93.99	$346.39 Prepaid	$1681.50	$1878.75 (paid)	$1878.75	$7118.29	$128.28
$ 88.85	$333.22	$1764.60	$1895.55 (90% paid)	$1895.55	$6833.83	$117.35
$137.90	$239.97	$1087.17	$1247.95	$1247.95	$4539.25	$108.35
$320.74	$919.58	$4533.27	$5022.25	$5022.25	$18,491.37	$118.82
$2.06/ton	$5.91/ton	$29.13/ton	$32.27/ton	$32.27/ton		

Net Value of 155.6155 Tons After All Deductions Except Mining (All Premiums) $13,611.71

" " " 1 Ton " " " " " " " $87.47

" " " 155.6155 Tons " " " " " ("A" Premium) $8,589.46

" " " 1 Ton " " " " " " " $55.20

No. 396 Ma

Phoenix, Arizona,
Jan. 13, 1944.

CHAS. A. DIEHL

ARIZONA ASSAY OFFICE

Phone 3-4001 — 815 North First Street — P. O. Box 1148

This Certifies *That samples submitted for assay by* Mr. Wm. B. Maitland. *contain as follows per ton of 2000 lbs. Avoir.*

MARKS	SILVER Ounces	SILVER Tenths	VALUE (Oz.)	GOLD Ounces	GOLD Hundths	VALUE (Oz.)	TOTAL VALUE Of Gold and Silver	PERCENTAGE LEAD	PERCENTAGE ZINC	REMARKS
HAVASU										
1	1.	8		Trace				7.10	40.00	
2		.6								

Charges $ 5.00

Assayer ARIZONA ASSAY OFFICE

HAVASU LEAD AND ZINC MINING COMPANY

MONTHLY PROGRESS REPORT

August, 1943

September 1,1943

1.	SHIPPING ORE IN CHUTE.	25 tons
2.	SHIPPING ORE STACKED UNDERGROUND	10 tons
3.	SHIPPING ORE SACKED AT MINE.	9 tons
4.	TONNAGE ORE PACKED TO TOP OF HILL	3/4 tons
5.	" " TRUCKED TO SIDING	24 tons
6.	" " SHIPPED TO SMELTER	None

7. FOOTAGE OF UNDERGROUND DEVELOPMENT AT EACH WORKING PLACE

' Bridal Veil - Level #2 - 60 feet

8. CONSTRUCTION WORK ACCOMPLISHED:

a. CAMP Dug new well for water on higher ground near camp, 12' deep. Reinstalled pump. Installed shower.

b. MINE Ladders and timbering.

c. MINE SURFACE. Improved powder house. Constructed rock and other walls for storage of milling ore.

d. TRAIL. Hualpai trail partly washed out. Repaired by Indians at no expense to company. Repaired foot bridge between Supai and camp. Raised and straightened suspension bridge between camp and Bridal Veil mine. Blasted natural dams at both bridge locations to lower water for horse crossing.

e. OTHER. Purchased building material and started erection of storehouse 10x16 at Hualpai Hilltop, to be of fream

Dupl. - RETURN TO MAITLAND - PHOENIX

HAVASU LEAD AND ZINC MINING COMPANY

MONTHLY PROGRESS REPORT

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	Bridal Veil - Level #2 -	60 feet

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e. OTHER. Purchased building material and started erection of storehouse 10x16 at Hualpai Hilltop, to be of fream — frame?

Another Page ?

325 Heard Building
Phoenix, Arizona
September 24,1943

Mrs. E. S. Sandersen,
1938 Mill Road,
So. Pasadina, Calif.

Dear Eleanor:-

Received your last letter and am sorry to learn that you are no longer at the mine. I am sure that I am going to miss the progress reports you sent in. Please be advised that on September 20th we credited to the Havasu Account $1,878.75 which was the premium on the car of ore you shipped. Mr. Sandersen has already been notified of this deposit, so he should now have sufficient money to carry him until the next shipment. Many of our shippers borrow from the bank on the premium in order to obtain their money faster, and usually the bank does not mind to do this as they know their money will be paid eventually. However, it is my understanding that from now on the smelter will pay the shipper 90% of the premium due at the time they make the smelter payment so this should help you with your next shipment.

I am sorry that I was away at the time you called. I am returning to you your check for $5.00 as it will not be necessary now for us to wire Washington in regard to the premium payment. Mr. Sandersen writes that the burros are hauling two and one half tons a day up the hill, so I feel sure that if you can keep up this rate, the operation will soon be self liquidating.

I hope that you will have returned to the mine by the time I make my next visit as I enjoyed your cooking and your lucid grasp of the affairs of the Company.

With kindest regards, I am,

Sincerely yours,

WM. B. MAITLAND
Supervising Engineer.

Enclosure
check
WBM:mr

325 Heard Building
Phoenix, Arizona
August 19,1943

Mr. R. M. Sanderson,
c/o Havasu Lead & Zinc Mfg. Co.,
Coconino County,
Supai, Arizona.

Re:- Havasu Lead & Zinc Mfg. Co.
Docket No. ND-5278

Dear Mr. Sanderson:-

Enclosed please find a copy of the assaying report and the original tracing of the map I borrowed from you. Under separate cover I am returning to you your sample sacks.

Will you please send to me as soon as possible a rough tracing of the third level of the Bridal Veil working showing the location of the samples on the enclosed assay certificate. I would like to have this map as soon as possible so that I can forward it to Washington. It is not necessary to make a fancy job as I will trace it here.

Sincerely yours,

WM. B. MAIELAND
Supervising Engineer

Enclosures
Report
Map

El Paso

Cu deduct 1 unit pay 100% remainder E+MJ M.y. less 6¢/lb

Pb deduct 1.5 unit pay 90% of remainder at price less 1.6¢/lb.
no pay less than .3%

Base $3.50 up to $15
10% over that

~~Quest~~

2.75¢ Pb
5¢ Cu

El Paso

Au	.09 oz × $32.318 =	2.91
Ag	16.5 oz × 95% = 15.7 × .69125 =	$10.85
Pb	10.4 % − 1.5 = 8.9 × 2000 = 178 lbs × 90% × .049¢ =	7.85
Cu	5.65 % − 1.0 = 4.65 × 2000 = 93.0 lbs × .0565 =	5.25
	Total payments for metals	$26.86

Premium

Pb	10.4 % × 95% × 2.75¢ × 2000 =	$5.43
Cu	5.65% × 70% × 5¢ × 2000 =	$3.96
	Premium price	$9.39
	Total payments for metals	$36.25

Marketing Charges

Base charge plus deductions	$7.49
Freight Patagonia to El Paso	3.39
Trucking Mine to Patagonia	1.75
15% Royalty on ore	3.54
Total Marketing charges	16.17
Net value of ore at mine	$20.08
Estimated mining cost	10.00
Net Profit/ton	$10.08

7.49 / 100 = 7.49 / 95 = 10 / 160 = 10.00 / 160 = 10.00 / 160 = 10.08

55

2000

1984.6

85
71
14

My Copy

325 Heard Building
Phoenix, Arizona
July 29, 1943

R. M. Sanderson
Supai, Arizona

Re: Docket No.ND-5278
'Havasu Lead & Zinc
Mining Co.

Dear Mr. Sanderson:

I intend visiting your mine the latter part of next week - probably around August 5, 6, or 7th. In order that you may make arrangements for the horses, will you kindly inform me on which of these days you could have the horses at the top of the hill. I believe it advisable for me to leave here in the morning and arrive at the top of the hill some time in the afternoon, in order to travel in the cool of the evening, provided you can make the arrangements with the Indians.

Please inform me as to the weather conditions at night in the canyon, so I will know how many blankets to bring; and do you have extra bed there; and whether it will be necessary for me to bring my own food.

If this time for my visit does not agree with your plans, please inform me of a suitable date as near these dates as possible as I appreciate that it is sometimes difficult to make necessary arrangements with the Indians. I would appreciate also if you could get me a saddle that does not fall apart and a horse that does not collapse every mile or so.

Sincerely yours,

WM. B. MAITLAND
Supervising Engineer

WBM-b

Sanderson Feb 27, 1943

Sample No 1M – 18" – Selegman No 1 Tunnel
White powdered calcite, red iron,
galena specks, prob. cerussite
in solution channel

Sample No 2M – 2' – 1' strand on foot, then
2' of hard banded lime & then
1' of ore on Hagmyned
galena & limestone. Margin
of old stope

No 3M – 4' – Lime & galena
Selegman No 2 Tunnel no stoping ore left

No 4M – 2½' 6' adit on N cliff on Pyramid
Clean Zn in lime
Sphalerite & galena

~~Total Vein width~~

No 5M – 3½ Cerussite with specks of galena in
blanket deposit
1st level

No 6M – 3' Main haulage level
mostly cerussite

No 7M – 2' Main level cerussite

No 8M – 1½' " " head of winze
cerussite & galena

No 9 M -6' Half galena & cerussite lower level

No 10 M - 6' Mostly cerussite lower level

No 11 M - 6' " " " "

No 12 M - 5' " Galena " mostly

No 13 M - 1' green undesigned material ?

No 14 M - 2' Galena & cerussite

1½

27.5

4.9
6) 26.5

325 Heard Building
Phoenix, Arizona

June 29, 1943

Mr. R. M. Sandersen
Supai, Arizona

Dear Sandy:

Re: Docket No. ND-5278
Havasu Lead & Zinc
Mining Company

It is some time since I have written you, and I am sorry that I have not had time to visit your project sooner. We appreciate your progress reports that you have sent in, but there are a few questions that I would like to ask you that are not covered in these reports.

As you undoubtedly know, you have spent practically all of your $7500 loan, and our records do not show that you have as yet made any shipments to the smelter. Your balance as of June 17th was $1939.89, and I note in your last letter of June 19 that you are contemplating the construction of a mill. It appears to me that a loan for milling would be difficult to obtain since you have not as yet demonstrated that you can ship any of the high-grade ore to the smelter, which was the basis for your original loan. As you remember, we estimated the following expenditures under the $7500 granted to you:

~~1/2 7.3~~ $55.50

2460 tons exposed
$20 net
$49,200 net profit

9.08
41.25
50.33
15.00
35.33

14.14 oz Ag
-1.00
13.14 oz x $0.69125 =
$9.08

48.27% Pb
1.50
46.77 x 90% = 42.09 % x 2000 =
841.8 lbs @ $0.049 = $41.25

41.25
25.22
9.08
$75.55 total metal payment
5.85 smelter charge
$69.70
28.25
$41.45 net at mine
3.11 royalty 7½%
$38.34
10.00 mine cost
$28.34 net profit

Premium: 48.27% x 95% x 2000 x 2.75¢ = $25.22

Base $3.50
Base Spec Prem $/5 3.53
Total $7.03
Less Tons on Pb over 30% 1.83
Total $5.20
5 penalty .65
5.85

Packing $14.30
Railroad 7.95
Trucking 6.00
28.25

28.34
8.34 Reserve for contingent costs
20.00 net profit estimated

5	$3\frac{1}{2}$	26.1 – 91.35	42.59	149.07
6	3	7.6 – 22.80	13.40	40.20
7	2	1.5 – 3.00	20.22	40.44
8	$1\frac{1}{2}$	20.00 – 30.00	58.80	88.20
9	6	10.1 – 60.60	59.00	354.00
10	6	23.6 – 141.60	60.25	361.50
11	6	11.6 – 69.60	51.78	310.68
12	5	11.2 – 56.00	52.24	261.20
~~13~~	~~1~~	~~19.2 – 19.20~~	~~27.81~~	~~27.81~~
			42.20	84.40
14	2	10.0 – 20.00		
9	35	494.95		1689.69
	$\frac{35}{9} = 3.9'$	35		35
		14.14 oz Ag		48.27 % lead

SWL

Equipment

45 burros complete with pack saddle & 2 bags	$2700.00	
1500 ore sacks	375.00	
1 light stoper	385.00	
Misc. tools and steel	100.00	
Total equipment		$3560.00
Rehabilitate camp buildings and equip same		750.00
Move in applicant's compressor and equipment, install same		500.00
Mining Development		
Cost to install rail cars, chutes, ladders, etc.		900.00
Advance on freight for initial shipments		400.00
Reserve for contingencies		1390.00
Total for loan		$7500.00

Will you please write me and analyze each item of these estimated expenditures, showing in detail what work has been accomplished, what supplies have been purchased under each item, for example; of the 45 burros complete with pack saddle and two pack bags, how many burros did you purchase? And how many pack saddles and pack bags did you purchase? And how much did you pay for this item? Please do the same for all of the other items. Also, how many feet of development work did you do on each deposit? And how many tons of shipping ore have you now stocked at the portal of each tunnel, at the terminus of the road, and in transit to the smelter?

As you remember, we anticipated that you would spend a small amount of money developing the zinc showing in the Pyramid tunnel. Did you do any of this work? Also we anticipated that you would rehabilitate the ladders reaching up to the workings below Mooney Falls. Have you completed this work? And what are the results of your samplings?

No. 319 Mo

Phoenix, Arizona,

Dec. 4, 1945.

CHAS. A. DIEHL

ARIZONA ASSAY OFFICE

Phone 3-4001 — 815 North First Street — P. O. Box 1148

This Certifies That samples submitted for assay by W. M. S. Kelland. contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER Ounces	SILVER Tenths	VALUE (Oz.)	GOLD Ounces	GOLD Hundths	VALUE (Oz.)	TOTAL VALUE Of Gold and Silver	% PERCENTAGE % LEAD	% PERCENTAGE % ZINC	REMARKS
1	7	3						7.00		
2	12	4						35.05		
3	18	0						30.02		
4	2	6						6.01	33.53	
5	20	1						42.50		
6	7	6						13.40		
7	1	5						20.22		
8	20	00						58.00		
9	10	1						50.00		
10	23	0						60.25		
11	11	8						51.75		
12	11	2						32.24		
13	10	2						27.01		→ +5 % Cu
14	10	0						42.20		

Charges $ 25.00

Assayer Arizona Assay Office

Havasu Lead and zinc Mines pg bonus 5.5
W.T. Johnson Mine

Shipment Date	El Paso smelter.		Assay											Total Metal Tons		Tons	Per Ton	Credits	Shipper					
		Au	Ag	Pb	Cu	Insol	SiO2	Fe	CaO	Zn	S.	Al_2O_3	Co	Sb.	Ag	Pb								
Oct 26-43			17411	13.1	6.48			7.6	2.1	2.0	3.1	0.4	2.1	1	.50	.50	727	71.915	55.0825	64.19		3454.78	338.10	5238.58	
Oct 16-43			2377	13.1	6.23			8.6	4.6	2.7	3.4	1.4	2.4	.8	.32	.20	745	72.537	55.022	61.99		3404.80	276.55		
Dec 8-43			2701	18.38	8.01	.25	11.0	8.8	3.8	1.6	1.5	3.0	.8	.30	.35	770	47.758	41.844	60.97		2432.78	181.45		
				14.52	6.97												2259	192.40	155.055			8924.70	10,044.54		
5-3-43	D Wolfe El Paulina		1087.015	.20	19.0			33.4	26.8	10.8	.17	11.3	1.0	0.4	.80	.15	74.51	14.159	37.0825	16.43		393.46	9.89.77	367.90	
12-22-43			3084	.015	17.855	4.9	2.38	73.4	6.6	6.8	.1	1.9	2.4	2.3	.21	.02			62.051	1.417		6774.18	464.45		

Au Ag Au Pb Zn

It is impossible for me to stress too strongly that you are expected to produce ore and get on a paying basis with the loan already granted to you, and since we thoroughly discussed the expenditures anticipated under this loan , this office was under the impression that you would follow the list of estimated expenditures as near as possible as we both felt that this was the best way to put the mine in production with the funds available.

I did not believe at the time of my visit that your property warranted any large development program and your project consisted merely of getting out high grade lead ore and shipping it as quickly as possible to the smelter. At the time of my visit to your mine, you had about fifty tons of ore ready for shipment and I am at a little of a loss to understand why you have not as yet shipped this ore.

I would like very much to visit your property, and intend to do so within the next few weeks, but in the meantime I would appreciate very much your reply to the many questions contained in this letter as we must keep Washington informed as to the progress of all of our loans.

With kindest personal regards, I am,

Sincerely yours,

WM. B. MAITLAND
Supervising Engineer

WBM-b

Harrison Load.

D. R. Wolf.

W. J. Johnson Mine