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UNITED STATES
DEPARTMENT OF INTERIOR
OSCAR L. CHAPMAN-SECRETARY

DEFENSE MINERALS ADMINISTRATION

Report by Examination Team
Region II

DMA-109 - Lemhi Union Company

Lemhi County, Idaho

T. E. Howard
U. S. Bureau of Mines

September 25, 1951

LEMHI UNION COMPANY
Lemhi County, Idaho

DMA Docket No. 109

By T. E. Howard (U.S.B.M.)

RECOMMENDATIONS

It is recommended that the application of the Lemhi Union Company Rexburg, Idaho, be denied as there are insufficient ore reserves on the property to warrant the requested $100,000 loan.

APPLICANT

The applicant is the Lemhi Union Co., an Idaho corporation authorized to issue 503,156 shares of assessable stock, 146,000 of which have been issued. Officers are Otto Brown, Rexburg, Idaho, vice-president and acting president; Charles S. Watson, Rexburg, Idaho and Margaret W. Collins, Carrie Madison, and Lena E. Watson, directors.

LOCATION OF DEPOSIT

The Lemhi Union property consists of the following 19 unpatented claims, the Last Chance, Silver Standard, Revenge, Biggest Out, Royal Flush, St. Clara, Jokon, White Elephant, Silver Queen, Yalu, Lulu, Iron Ledge, Lost Cabin, Lost Cabin No. 1, Bonanza, Mayflower, Slide, Roosevelt, and Roosevelt No. 1, all in T. 12 N., R. 27 E., B.M., Spring Mountain mining district, Custer County, Idaho.

Roberts, Idaho, 89 miles from the property is the nearest railhead. At the present time ore is being hauled to Roberts from neighboring properties for $5.00 per ton. The average railroad shipping rate from Roberts to the United States Smelting, Refining and Mining Company's smelter at Midvale, Utah, is $7.00 per ton.

The nearest supply point is Idaho Falls, Idaho, 110 miles from the property.

OWNERSHIP

At the present time the claims are under lease to T. C. Anderson of Blackfoot, Idaho. According to the applicant, Mr. Anderson has agreed to relinquish the lease, which expires on July 7, 1952, upon request of the company. A lien against future production in the amount of $25,000 payable at 5 percent of the net smelter returns, is held by George Talley, of Haselton, Idaho

HISTORY AND PAST PRODUCTION

Past production from the property has been small and has consisted chiefly of oxidized lead-silver ores. It is reported that ores valued at $100,000 were shipped in the Eighties from the shaft on the St. Clara claim. A raise, driven in the 1920's connecting this shaft to the main adit, produced 3 cars of ore. In addition, a small amount of ore reportedly was shipped from shallow shafts and prospect pits on the Lost Cabin, Mayflower, and Roosevelt claims during the early part of the century.

During the past 10-12 years, lessees have made small shipments consisting principally of ore sorted from old dumps. The present lessee, T. C. Anderson, made two shipments totaling 65 tons from the shaft dumps on the St. Clara claim. These shipments averaged 4.9 percent lead, 1.4 percent zinc, and 1.6 ounces silver per ton.

DESCRIPTION OF PROPOSAL

The applicant has requested a direct loan of $100,000 to develop the property by rehabilitating the old workings and extending the present

1800-foot adit 1,500 feet to intersect the presumed extension of a vein exposed on the Log Cabin claim about 1,500 feet above and 1,000 feet south of the adit. It is proposed to expend the loan as follows:

(a)	Repair and construction of necessary buildings, and improve access road	$ 8,500.00
(b)	Purchase of new equipment	23,422.00
(c)	Rehabilitate old mine workings and drive 1500-foot adit extension	34,000.00
(d)	Construct mill	25,000.00
(e)	Working capital	9,078.00
		$100,000.00

TECHNICAL FEASIBILITY

Geologic Setting

The Lashi Union property is in an area of late Paleozoic sediments consisting predominantly of limestones and some quartzites. These rocks strike about N. 20° E. and dip 40°-50° SE., and are cut at frequent intervals by quartz-diorite dikes. These dikes range from 50 to 300 feet wide, correspond in strike with the bedding and dip to the west.

Mineralization occurs as fracture fillings and replacements in the limestone. The ore-bearing fractures trend N. 0°-25° E., and dip 40°-80° NW. In the accessible portion of the main adit the mineralized zones are narrow, varying from an inch to 6 inches in width. The shaft and raise from which the principal production has come were inaccessible at the time of the examination. The applicant described the vein as being narrow, widening locally to small lenses of high grade ore.

The vein on the Log Cabin No. 1 claim, opened by a 40-foot shaft and by surface trenches southwest from the shaft consists of a

number of weak fractures in blue limestone striking N. 20°-25° E., and dipping 45°-50° NW. The mineralized zone ranges from 2 inches to 4 feet in width and swells locally to small lenticular ore bodies up to 3 feet wide. The vein's northwesterly extension has not been traced. Inaccessible shafts on the Mayflower and Roosevelt claims are reported to have exposed narrow veins of high grade ore.

Principal ore minerals are lead and zinc carbonates with associated silver in a gangue of iron and manganese oxides. No sulfides were observed in the accessible workings. According to smelter settlements early shipments contained from 23 to 39 percent lead and from 7 to 20 ounces of silver per ton.

Mine Workings

The principal mine working is an adit driven west from a portal on the Silver Standard claim. This adit is reported to be 1,800 feet long. However, only the first 900-foot section was accessible at the time of the examination. A number of short exploratory drifts have been driven both north and south from the adit along small ore stringers. One of these drifts is connected to the surface by a raise and shaft, now caved, on the St. Clara claim. The principal part of the property's past production is reported to have been taken from these shaft and raise workings.

A small 40-foot prospect shaft on the Log Cabin claim, two shallower shafts on the Mayflower and Roosevelt claims, all about 1,500 feet higher in elevation than the adit, and a number of prospect pits on various other claims, complete the mine workings.

Reserves

The property contains no measurable ore reserves with the exception of about 300 tons of dump material on the St. Clara claim. Shipments sorted from one of these dumps by the present lessee averaged about 4.9 percent lead, 1.4 percent zinc, and 1.6 ounces per ton silver.

Mining Method

Development has not progressed sufficiently for a mining method to be determined or a cost estimate made.

Milling Method

As far as could be learned, ore from the property has neither been milled nor have ore dressing tests been made. Metallurgical tests will be required before a milling method and costs can be determined. Because of a water supply deficiency on the property, mill construction must be preceded by the acquisition of adequate water rights.

Rate of Production

Present

The property is idle at the present time.

Anticipated

According to the applicant, the anticipated production rate will depend entirely on the outcome of the proposed exploration.

Time Schedule to Attain Objectives

It is estimated that three months would be required to repair the access road and cabins, build new cabins, install necessary equipment, and to rehabilitate the main adit before the proposed 1,500-foot extension could be started. Rehabilitation of the raise, shaft and upper workings could be carried on simultaneously with the crosscutting. Assuming an

average advance of 200 feet per month with a 2-shift per day working schedule, eight months would be required for the crosscutting, making a total of eleven months to complete the project.

Marketing Facilities

The ore can be marketed at one of the Salt Lake Valley smelters.

EQUIPMENT AND FACILITIES

Installed

The property is completely devoid of mining and milling equipment. Available facilities consist of three log cabin-type bunkhouses in need of minor repair.

Required

Facilities required for the proposed program are:

Two bunkhouses, a machine and blacksmith shop, and a garage, which together with the necessary repairs to the existing cabins and the repair of the 7-mile access road from State Highway No. 28, the applicant estimates will cost $8,500.00.

Equipment the applicant intends to purchase for the project includes the following:

Item	Estimated Cost
1 Chain saw	$ 400.00
1 Three-quarter ton pickup truck	2,000.00
1 Two-ton truck	3,000.00
1 TD-14 International tractor with angle dozer	8,000.00
1 Portable air compressor (315 cfm)	7,000.00
6 Mine cars (13 cu. ft.)	900.00
1 Mucking machine	3,000.00
3 Rock drills (hand held)	1,000.00
1 Drifter (with column and arm)	1,000.00

Item	Estimated Cost
1,000 Feet 1-inch pipe	$ 160.00
1,000 Feet 3-inch pipe	700.00
3,000 Feet 2-inch pipe	1,030.00
16 Tons 12-lb. rail	2,600.00
1 Pressure water tank	50.00
1 Set Air and water hoses	90.00
Spare parts, small tools	1,000.00
Total	$31,930.00

The applicant's estimate of the cost for the above is $23,422.00. With careful buying of used equipment this figure could probably be approached.

LABOR SUPPLY

There is a limited supply of labor in the district. Current district wage rate for miners ranges from $9.00 to $11.00 per shift.

POWER

As electric power is not available in the area, power for mining operations would have to be generated locally, either by gasoline or diesel units.

ACCESS ROAD CONSTRUCTION REQUIRED

The present 7-mile access road connecting the property to State Highway No. 28 is passable and is considered adequate for a small-scale exploration program. However, as it contains a few steep grades and a number of narrow sections, some relocation would be required before it could serve as an all-weather road for a producing mine.

ADEQUACY OF REQUESTED FUNDS

The applicant's estimate of funds required to complete the proposed program is considered low as shown by the following cost analysis:

Repair existing facilities and construct new	$ 8,500.00
New equipment	31,900.00
Rehabilitate old workings	10,000.00
Drive 1,500 feet of crosscut at $25 per ft.	37,500.00
Construct mill	25,000.00
Total	$112,900.00

COMPETENCE OF APPLICANT

The applicant is not considered competent. Dr. Watson, secretary of the corporation, is a retired druggist and optometrist about 75 years old. Although Dr. Watson has been connected with the Lemhi Union Co. for 40 years, he has had no actual operating experience. Otto Brown, vice-president, and a dry farmer of Rexburg, Idaho, would be placed in direct charge of the exploration and subsequent mining operations. Mr. Brown's mining experience has consisted almost entirely of assessment work performed on the property over a 20-year period prior to 1940. While he is an honest, straightforward man and successful in farming, it is considered improbable that he could successfully direct a mining operation.

DISCUSSION OF PROPOSAL

The applicant has requested a loan of $100,000 to develop a mining property in Lemhi County, Idaho by rehabilitating old workings and extending the adit 1,500 feet to a presumed downward extension of a vein outcrop.

It was pointed out to a company official that ore reserves sufficient to secure the loan were required before a direct mining loan could be considered. Since the proposed project is exploratory, the government's program for providing exploration aid to operators on a matching basis was explained. The official stated that he was not authorized to change the company's present application. Furthermore, the company funds were stated to be inadequate to provide a share of the project cost. Such funds could be raised only with extreme difficulty, either by assessments or stock sales.

The proposed crosscut extension is designed to intersect the Lost Cabin vein exposed more than a thousand feet above and about a thousand feet south of the adit.

A more feasible method of exploring this vein, apparently, would consist of tracing its northward extension by surface trenching on and at the foot of the east-west ridge north of the Log Cabin shaft. Drifting southward from the surface could be undertaken if the trenching was successful.

N
Joker
St. Clara
Revenge
Silver Standard
White Elephant
Iron Ledge
Lulu
Silver Queen
Lost Cabin
Lost Cabin No. 1
Yalu
Roosevelt
Roosevelt No. 1
Slide
May-flower
Bonanza
9000
10,000
53°
63°
68°
75°
60°
50°
50°
dike
SKETCH MAP
LEMHI UNION PROPERTY
Lemhi County, Idaho
DMA 109
Scale: 1" = 600'
Contours Approximate
T.E. Howard 8-31-51