268

FORM: ML 103

Item 14

0280 0012

I. MILL

THIS IS AN APPLICATION FOR AID IN BUILDING A MILL.

(1) Answered on MF100.

(2) Answered on MF100.

(3) Answered on MF100.

(4) Answered on MF100.

(5) Answered on MF100.

(6) All mines are under lease and mill property will be owned or controlled by the partners. No liens or encumbrances are known. The owners from whom the properties have been leased are required to keep title of property clear.

(7) Attached are photostatic copies of lease which are in good standing. One lease has been verbal until filing this application. As major interest parties in the 640 A. Toulon mill site, we can acquire or control the necessary acreage for an Antimony Mill.

(8) See Financial Statement attached in back of this application.

(9) The applicant is prepared to turn over (Flow Sheet #I) $12,090.00 and (Flow Sheet #II.) $14,045.00 worth of equipment to build the mill. Two proposed Flow Sheets are shown in appendix with list and value of equipment following. The applicant is also prepared to invest whatever additional amount is required to meet their quota of investment.

(10) (a) The accompanying map in appendix shows the location of the various mines and the proposed location of mill adjoining the Toulon tungsten mill. The names of the mines are now known as: The Hollywood Mine, Sutherland Mine, and Johnson & Heizer Mine. In addition to these two mines, there are two prospects named The Fencemaker and Antimony King. There are other antimony prospects in the area that could be acquired or leased or the people owning them could be allowed to send in ore for custom milling.

(b) I. Hollywood Mine is located in the Relief Mining District. This mine, with a total of ten claims, is more definitely located as in Section 34, Township 27N., Range 34E., M.D.B&M., Pershing County, Nevada.

II. Sutherland Mine is located in the Black Knob District. This mine, with a total of three claims, is more definitely located in Sections 10 & 15, Township 27N., Range 33E., M.D.B&M., Pershing County, Nevada.

III. Johnson & Heizer Mine is not in any mining district but is on the edge of railroad grant property of the Southern

Pacific Railroad Co. in Section 19, Township 28 N., Range 33E., M.D.B&M. In addition to the lease from the railroad, there are two staked claims adjoining in Section 24, Township 28N., Range 32E., M.D.B&M., Pershing County, Nevada.

IV. Fencemaker prospect, comprising one claim, is located in Section 8, Township 27N., Range 37E., M.D.B&M., Pershing County, Nevada.

V. Antimony King prospect, comprising three claims is located about in Section 21, Township 28N., Range 35E., M.D.B&M., Pershing County, Nevada.

VI. MILL. The mill is proposed to be located on part of the 640 acre tract of the Rare Metals Corporation property on which the Toulon Tungsten mill is now located. This 640 acres is in Section 5 of Township 25N., Range 30E., M.D.B&M., Pershing County, Nevada.

No attempt was made to give the legal description of properties, but they can be inspected at this office at any time.

(11) Answered on MF100 and above.

(12) I. Hollywood Mine is 19 miles Southeast from U. S. 40 and a Southern Pacific Railroad siding. From this Point (A) Southwest to Lovelock is 8 miles and thence 9 miles Southwest to proposed Antimony Mill at Toulon on U. S. 40.

II. Sutherland Mine is 9 miles Southeast to above-mentioned Point (A) on U. S. 40.

III. Johnson & Heizer Mine is 3 miles East from U. S. 40 and from this point Southwest 14 miles is Lovelock.

IV. Fencemaker prospect is 35 miles East of above-mentioned Point (A) on U. S. 40.

Mill property adjoins the Southern Pacific Railroad Company property on the East which property adjoins right of way of U. S. 40.

U. S. 40 is a macadam highway and balance of road is a fairly good dirt road. At present time, a good deal of dirt road is being rebuilt for heavy traffic.

(13) Answered on MF100.

(14) Answered on MF100, except for Johnson & Heizer Mine. This mine is partially equipped. We have equipment at our yards to put property into operation in a short time.

(15) The ore would be hauled by truck to the proposed mill at Toulon and from which point the concentrates can be loaded in cars on a railroad siding at the mill for shipment to the smelter of Texas Mining and Smelting Division of the National Lead Company at Laredo, Texas.

(16) HISTORY:

I. Hollywood Mine was opened up in 1864 by George Seen, who erected a small crucible furnace at the mine, but operation was not successful. When antimony price was high during World War I, 400 tons of ore averaging 35% antimony was shipped. Claims were dropped and relocated about 1939 and held by assessment work until further development started about 1948, but work was intermittent because of changes in price of antimony.

II. Sutherland Mine started in 1860 or thereabouts. The furnace at this mine was also unsuccessful and the property shut down. During World War I, production was estimated at 4,500 tons of ore averaging 35% antimony and some ore was put through a mill but no record was kept of amount of production. Texas Mining & Smelting acquired the property and did some mining before being taken over by the National Lead Company, who leased it to us. We produced some ore from a new winze. Price of metal has a bearing on the operation of this property.

III. Johnson & Heizer Mine is a new mine just started in 1946 and has shipped 4 cars and a partial shipment. Low price of antimony shut it down.

TOULON MILL:
Toulon Mill was built before World War I and has been used for treating tungsten ores since 1917. This mill has been used as a custom mill for other ores, including antimony ores. This mill is now preparing to take only tungsten ores for concentration and therefore it is necessary to build a small antimony unit on the same property. Price of the various metals has considerable bearing on the operation of the Toulon Mill.

(b) There have been other mines in the area with some production but there is no record of the names of these mines or their production. There are also some antimony claims upon which assessment work is kept up.

(c) Some information on mines under consideration, is found in the Bureau of Mines Information Circular #6902, Oct. 1936. Metallurgical work has been done on these ores by Mr. Otto R. Brown of American Cyanide Co., and by Mr. Corbin Marsh, research metallurgist of the National Lead Co. Their reports are available at our office.

(17) PRODUCTION:

This is the production of mines since we took over. This production would have been more if market conditions had been better and if a suitable mill had been available:

I. Hollywood Mine
There is some ore mined and stock-piled at the mill. Some ore milled and some high grade ore shipped.

Type	Date	Tons	%Sb.	lbs. Sb.
Mined to	7/30/51	1168.7		
Milled to	7/30/51	754.8	3.93	recoverable
Shipped* to	7/30/51	32.5		22,293
On Hand**	8/30/51	46	43.0	37,560

Mined ore based on grade milled. *Concentrate and ore shipped. **Concentrates on hand is estimated at 46 tons of 43% antimony.

II. Sutherland
Some ore, dump, and mine fill milled and some high grade ore shipped.

Type	Date	Lbs.	%Sb.	Lbs. Sb.
Milled	?	320,000	5.40	17,280
Shipped	3/16/48	83,749	35.20	29,480
"	12/29/48	118,208	33.30	39,363
"	1/31/49	115,829	29.20	33,822
"	2/26/49	111,909	34.00	38,049
"	4/29/49	110,408	36.20	39,968
"	5/29/49	79,354	32.90	26,107
Total & Av.		619,457	33.38	206,789
Mixed ore and concentrate		71,029	32.84	23,329

Total & Av. is just for high grade ore shipped.

III. Johnson & Heizer.
No ore milled from this mine. High grade shipments only.

Type	Date	Lbs.	%Sb.	Lbs. Sb.
Shipped	9/1/47	61,400	28.7	17,534
"	3/24/48	100,250	39.6	39,699
"	12/7/48	64,999	25.6	16,640
"	2/25/49	84,430	34.5	29,128
Total & Av.		311,079	30.20	103,001

There is also 7,855 lbs. in stock pile at Toulon Mill for shipping.

(18) ORE RESERVES:

I. Hollywood.

(a) The structural features are a North trend anticline with step faulting with antimony occuring in quartz veins in the folded and faulted shales. The triasic shales have some thin beds of quartzite and some of faulting of beds has been post mineral. The ore mineral is Stibnite, which in the upper zone of the mine has been converted to the oxides of antimony.

(b) Map of mine is shown as Fig. (4) in back of application.

(c) Ore reserves for milling.

Type	Tons	%Sb.	Lbs. Sb.
Filled stopes	None		
Dumps	500	5	50,000
Ore in Place.			
NE Vein	750	7	105,000
SW Vein	750	7	105,000
" Winze	200	7	28,000
Total & Av.	2200	6.5	288,000
Indicated Ore.			
NE Vein	500	7	70,000

Ore marked "dumps" is ore mined and put on a separate dump until ore bin was built.

Ore in place except winze is above main adit level. Indicated ore is a probable extension of NE Vein at depth.

No samples were taken as ore values in veins are erratic and we believe we are justified in taking grade of ore milled as grade of ore in dump and in reserves.

II. Sutherland Mine.

(a) The ore occurs in a quartz vein in a fracture zone of an intensly folded and faulted triasic shale. The vein has a north-south trend and is almost vertical as seen on the map. The mineral is stibnite which has been to some extent oxidized on the upper levels. The ore shoot appears to have a rake to the north and on the lower levels pyrite is increasing.

(b) Map of mine is shown as Fig. (5) in back of application.

(c) Ore reserves: For Mill

Type	Tons	%Sb.	Lbs. Sb.
Filled Stopes	3,750	3.25	243,750
Blocked out	1,000	10.0	200,000
High grade dump	350	9.23	64,610
Total & Ave.	5,100	4.99	508,360
Indicated	500	10%	100,000
Low Grade dumps	300	3%	18,000

By screening out the coarse material in the low grade dump we should have 300 tons of 3%Sb. ore for mill. Grades of ore based on some milling of stope fill and high grade dump. Ore in place is based on shipment, stope fill and dumps, and on a rough calculation is about 15% Sb. but to be conservative we have used 10% Sb.

III. Johnson & Heizer.

(a) The ore occurs in a quartz vein striking approxi-

mately N55°W and dipping about 60° to the S.W. This triasic formation is shale beds with thin beds of quartzite, that have been intruded by rhyolite dykes. These beds have been folded and faulted and some of the deformations are post intrusive.

(b) Map of mine is shown as Fig. (6) in back of application.

(c) Ore reserves: For Mill

Type	Tons	%Sb.	Lbs. Sb.
Filled Stopes	250	5.0	25,000
Blocked out	420	10.0	84,000
Sulphide dump	150	3.37	10,100
Oxide dump	200	6.67	26,680
Total & Ave.	1,020	7.14	145,780
Indicated	1,500	10	300,000

IV. Fencemaker Prospect.

The formation in which the antimony ore occurs is a massive limestone which is fractured and has minor faulting with some brecciation and water channel openings in fracture zones. There is some disseminated stibnite replacement of wall rock but I would judge the majority of mineralization would be crystaline stibnite in the vugs and channel openings. Like all other places, there is a certain amount of oxidization of minerals near the surface. There is no particular vein but one fracture of importance has an approximate North-South trend.

Summary of Reserves of Milling Ore
Positive

Mine	Tons	%Sb.	Lbs. Sb.
Hollywood	2,200	6.50	286,000
Sutherland	5,100	4.99	508,360
Johnson & Heizer	1,020	7.94	145,780
Mill Stockpile	276	7.00	38,640
Total & Av.	9,596	5.10	978,780

Includes - Ore in place, filled stopes, high grade dumps and stock pile at Mill.

Indicated

Mine	Tons	%Sb.	Lbs. Sb.
Hollywood	500	7.00	70,000
Sutherland	500	10.00	100,000
Johnson & Heizer	1,500	10.00	300,000
Sutherland Dump	300	3.00	18,000
Total & Av.	2,800	8.71	488,000

Sutherland Dump is considering screening low-grade dumps to reach grade to justify hauling, milling and shipping concentrates.

(19) In considering the ore reserves of these properties, it should be understood that because of the characteristic erratic nature of antimony mineralization and complex geological structure of these deposits it is impossible to block out very large ore reserves ahead of development work. It is to be expected that as the development program progresses, additional ore will probably be proven up.

There are also a number of other antimony mines in the district which could supply additional tonnage of ore on a custom basis.

(20) The primary purpose of building a mill is to treat antimony ores.

(21) Some metallurgical work is necessary to decide on a flow sheet, then design and build a mill which can be completed three months after all equipment is received.

(22) There has never been a mill in this area to treat antimony ores to get maximum recovery and grades at a reasonable cost. Because of the immense increase in shipping cost and anticipation of lower grade ore to be treated, erection of a mill should be justified in this area.

(23) The figures in back of this application represents a rough estimate of cost of building of a mill for treating antimony. This mill will be built on contract basis and we are not able at this time to present the detail figures requested under Item 23.

(24) As soon as the project is approved, we will proceed with further metallurgical testing, and design and building of the parts of the mill that would not be affected by change in flow sheet. Since we have most of the equipment on hand and can proceed with work, the only delay in completing the plant in six months will be delivery of material or "force majeure."