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REPORTS ON THE ILLINOIS MINE

Two reports written by F.H. Lerchen were studied. Mr. Lerchen is a mining engineer, but is not listed in "Who's Who in Engineering" and not a member of the A.I.M.E.

LOCATION OF THE PROPERTY

The property is located at Marble in the Mammoth (Dodi Valley) mining district, Nye County, Nevada. 45 miles north east of Luning, Nevada.

Lerchen's Report, May 1, 1937

The property at this time included 5 patented claims and a number of adjoining unpatented claims. Equiped with a lead smelter (100 ton charge), mine surface plant, machine shop and labatory.

If this equipment was here as he has stated then he is right in saying that it could not be duplicated for less than $100,000. I cannot see why he has set such a low figure as a minimum.

The history of the property he has given is very interesting to read, but sounds more as though it was gathered from tales than from facts. It is doubtful if the history of the production of the production can be relied upon.

He states that the mine shut down because of water incountered in the shaft, and that the water was only removed by buckets. He also states that there was an increase in the value of the ore in gold content at the bottom of the shaft, giving some assay values to bear this out, but he has failed to give the width of the samples taken, or the width of the vein. Had the conditions of the continuance of the ore been favorable it is doubtful that the shaft sinking would have stoped. (J.A. Carpenter has found old steam or compressed air pumps on the dumps).

In the geology of the deposite Mr. Lerchen states, "A crossection of the sequence of rocks to be found from east to west would be limestone , hornblende andesite, quartz porphry and granite, all having a northwesterly strike and south westerly dip." It certainly sounds as though he has given the quartz porphry and the granite a strike and dip. This is very doubtful.

He states that the ore is ideal for smelting on the ground, but history of small lead smelters has shown them to be uneconomical. Two smelters on the property have already failed, (in his acount of the history).

In his acount of the ore reserves he has given no facts of measured widths of the vein or widths of the samples taken, only his personal opinion and hearsay.

He has recommended development in the upper workings but not in the lower workings, failing to recommend a a fact he has endeavored to point out. Since the depth of the shaft is 1000 ft. and the mine is only flooded to the 860 level it is not likely that the influx of water is very great.

In Sept. 23, 1935 the smelter had been dismantled.

MAY 13, 1928 F.E. Lerchen's "Synopsis"

In this report he states that the limestone was uplifted by the andesite on the east, This is not likely true as andesite usually occurs as lava flows.

His analysis of the ore shows the lead and zinc to be present in almost equal amounts. The ore is oxidized and the lead and zinc are present as carbonates therefore the two metals cannot be separated for concentration and shipment. Only about 50% of the values are recovered by gravity concentration. It may be true that the earliest workers could not ship less than $100 ore, but the subsequent smelters and leasers would not have left this kind of ore.

Tests were made on gravity concentration and then cyaniding the tailings. He has calculated a recovery of 81% but in making his calculations he has shown that he does not quite know how it is done.

There is a 50-ton gravity concentration plant on the property also mine hoist, only cyanide tanks are required to try this method of treatment. (Evidently this method also failed.)

He has calculated only $8.50 profit on $21.00 ore, estimating $5.50 cost for mining old fills, this is exceptionaly high, and aparently no reason for it. He also gives a royality charge of $3.53 but does not tell how this figure was derived.

To me the leasing of the upper levels is the most economical method of operation of the mine for the owner, as there is evidently ore of shipping grade but it requires careful mining and hand sorting. It might be profitable to risk a few hundred dollars unwatering the lower workings and determining just what is there, At depth the lead and zinc are likely present as sulphides, and they can be separated for shipment by differential flotation.