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May 18, 1970

Mr. Dave Marcott
c/o Cotter Corp.
1204 $\frac{1}{2}$ Washington Avenue
Golden, Colorado 80401

Re: Jack Pine
Silver Plume Area

Dear Dave:

I have now had a chance to go over the Cotter Corp. files on the Jack Pine property, have returned these to your Golden office and have gone over much of Doug Watrous' data on the subject property. I visited the Mendota dump and Brownville dump with Mr. Watrous. In the past, I have made two trips through the accessible Mendota workings, one trip about 1959 and the second in 1962.

Concerning underground "ore", the vein exposures in the accessible Mendota workings are all narrow and not of interest. The nearest to anything of ore grade is found in the shaft pillars of the Howard shaft. According to data in Cotter files the "ore" streak down the shaft averages 3' wide and carries 4.4 oz./ton silver, 4.07% lead, and 11.5% zinc. What is seen here now might be of ore grade if there was any quantity, but this is the ore shoot located in the early 40's by U.S. Bureau of Mines drilling and was mined out in the mid 40's by a Mr. Howard. All that remains of this orebody then is a thin shell that Mr. Howard et al didn't feel was worth recovering.

The large underground reserve described by Mr. Watrous as "blocked out" on three sides ~~is~~ blocked out by a level with two winzes about 1000 feet apart. In this type of vein system that pinches and swells as it does, this block certainly is not blocked out.

Regarding the reported high grade face at depth, there is a letter in Cotter Corp. files stating the most recent known visitor to this face states there is nothing there.

In general old stope fill was well sorted and in many cases has re-cemented itself so that it does not run and is difficult, and often expensive, to remove. I seriously doubt that there is any old stope fill in this property worth considering.

On this basis then it seems to me there is no known ore underground on which to predicate the need of a mill and the need of a tailings pond.

Regarding the dumps, according to a 7/27/65 letter by Mr. J. D. Schlottman, the Smuggler dump was sampled using a quickway shovel and a 2 yard bucket loader. The assay of the 20 ton sample was 3/07 oz./ton silver, 0.59% lead, and 1.88% zinc.

On 8/21/66, Mr. Clyde Osborne reported the following tons produced and grade of material from the indicated dumps.

Table I

Dump	Tons Produced	Oz. Ag per ton	% Pb	% Zn
Brownville	5397	2.05	0.183	0.544
Mendota	<u>4550</u>	<u>1.16</u>	<u>0.279</u>	<u>0.984</u>
Average	9947	1.60	0.231	0.764

These figures are arithmetic and not weighted averages. The correct weighted average of this material would be 1.64 oz./ton silver, 0.225% lead and 0.735 zinc.

In the Hazen report dealing with the grade of material in the tailings composed of the sink-float plant undersize, they state the weighted average metal content of this material is less than 0.01 oz. gold per ton, 1.34 oz. silver per ton, 0.33% lead, 0.67% zinc, and 0.014% copper.

To summarize these data into a single table then--

Table II

Source of Material	oz. Au	oz. Ag	% Pb	% Zn	% Cu
Smuggler dump	--	3.07	0.590	1.880	--
Brownville dump	--	2.05	0.183	0.544	--
Mendota Dump	--	1.16	0.279	0.984	--
Weighted Average of Brownville-Mendota	--	1.64	0.225	0.735	--
Sink float undersize Hazen report	0.01	1.34	0.33	0.67	0.014

The Smuggler dump is now under the highway and is no longer an "ore" reserve. Theoretically the Brownville dump, estimated by others at 500,000 tons and the Mendota dump estimated by others at 50,000 tons still remain. The important thing in the table above is that the various assay sources of material from these dumps seem to agree reasonably closely on metal content.

Again based on Osbornes 9/7/66 letter to Dave Marcott the sink-float concentrate from the dump material reported in Table I above was as follows:

Table III

Dump	Tons	oz. Ag/ton	% Pb	% Zn	Conc. Ratio
Brownsville	195	13.61	1.66	4.17	27.7/1
Mendota	177	9.66	4.36	9.23	25.7/1
Total and Ave.	372	11.63	3.01	6.70	

Again these averages are arithmetic. Worked back to head-assays, these figures also show that the recovery by the sink float plant was 27.3% of the Ag, 48.8% of the Pb and 32.7% of the Zn.

Mr. Osborne goes on to estimate that by flotation the following quality of lead and zinc concentrates can be produced.

Table IV

	Lead Conc.	Zn Conc.
Silver, oz./ton	379.38	39.73
% lead	65.50	0.91
% zinc	4.60	56.75

He then states "Based on 'open' published smelter schedules the Pb concentrate would have a net smelter value of \$584.60/ton and the zinc concentrate a net smelter value of \$112.36/ton."

"Based on these values the up-graded Silver Plume product will have a net value of \$34.12/ton from which a hauling cost of \$6.75/ton and a milling cost of \$4.50/ton must be deducted, leaving a net value of \$22.87/ton. Relating this back to Silver Plume operations and a ratio of concentration of 14.1/1, the net return per ton of dump material would be \$1.62/ton." I suspect the 14.1/1 ratio used here is at the Cotter flotation mill--not the sink float. This \$1.62/ton should probably be nearer \$0.86/ton based on the Table III concentration ratios for sink-float.

In an 8/14/66 letter to Mr. Grant Roher, Mr. Osborne reports the following costs based on 115 loads of dump at 13 tons per load or a total of 1495 dry tons.

Table V

Item	Total Cost	Cost/ton
Hauling to crushing plant	\$ 950.75	\$0.630
Crushing	1029.75	0.690
Moving crushed material to stockpile on "patio" and/or into mill bins	<u>1144.75</u>	<u>0.765</u>
Totals	\$3135.25	\$2.085

Relating this \$2.085 cost per ton back to Mr. Osbornes \$1.62 net return quoted above, you can see this operation, on Mr. Osbornes figures, was already \$0.465/ton in the red. If my estimated recoverable value of \$0.86/ton from the sink-float plant feed, as indicated above, is more nearly correct, the net loss per ton was at least \$1.225/ton. Please note too that the figures in Table V do not provide for operation of the sink-float plant, so this loss must still be higher.

If one uses Mr. Osbornes \$1.62 net recoverable from the sink-float operation and the roughly 33% recovery indicated by Table III, the average dump heads would be worth about \$4.86/ton. Based on my estimated recoverable value of \$0.86/ton, the dump "ore" value would be \$2.58/ton. Using 100% of metal prices, Hazen Research estimated a total value of \$4.55/ton and Mr. Watrous thinks a value of \$5.55/ton is more nearly correct.

In Mr. Osbornes 9/7/66 letter, he estimates a milling cost of \$4.50/ton. If this figure is correct I sincerely doubt that a floatation mill could profitably operate on these dumps, even if it was already constructed on the property. With no known ore in the mine and the limited sub grade dump material, I am quite sure a floatation mill cannot be constructed and operated profitably at that site.

There has also been comment that sink-float reject could be sold for road metal. Apparently Mr. Osborne approached the Loudermilk people soon after they were awarded the highway 70 construction contract. Several letters indicate he was unable to get anywhere regarding a contract for aggregate. One letter states he was offered \$0.50/yard for 3000-4000 yards.

Now concerning the proposed legal action relating to the loss of the tailings dam at Silver Plume, it would seem to me the logical first question would be why do you need a tailings disposal area in the first place? If there is no known ore in the mine and if the dumps are too poor to warrant milling, I see no way I could justify any statement that a mill could or should be constructed. If I can't justify the construction of a mill, or show that any existing mill can be profitably operated using available feed, I cannot justify the need of a tailings disposal area. In short, I don't see any way of making this into a claim that could be justified in court.

The only possible claim I can see would be loss of the sink-float under-size in the old tailings pond. By Hazen figures this can only be 1,000 tons more or less. By Osbornes figures, he milled 9947 tons, but there is no indication as to what part of these were fines. Based on the various assays in Table II, the material in this tailings pond was essentially the same as the dumps as a whole and would be so low in value it could not be profitably milled even if a mill was on the property. Again there seems to be no basis for legal action.

May I suggest that this property is, in my opinion, not worth further work on the ground, not worth further lease payments, and not worth the contemplated legal action. Should you wish to continue with a legal action on

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this property, unless there is some definite proof of profitable ore potential that I have not yet seen, I must ask to be replaced by someone else for the preparation of this action.

Thank you for considering me as a witness. I'm sorry that available data all suggest to me that no such action should be taken.

Sincerely yours,



Maynard F. Ayler

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