

# MEMORANDUM

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From C.Q. Olesen

Ref. ....

Subject To Study the use of activated carbon as an absorption media for heavy metals and cyanides at Giant

Procedure - a column 22" x 5/8" Diam. (0.0039 ft.<sup>3</sup>) was filled with 39 grams of activated carbon and subjected to mill waste effluent.

Mill Waste (ml.)	#C/ton Soln.	CN <sup>-</sup>	Cu	Ni	Fe	Zn	As
0	39/0	28.0	17.0	.85	.43	1.60	13.0
500	39/.25	.80	ND	+	.30	+	9.0
1000	39/.50	3.5	ND	+	.28	+	14.25
1500	39/.75	4.7	ND	+	.29	+	14.25
2000	39/1	5.4	2.0	+	1.58	+	13.75
2500	39/1.25	6.6	.7	+	.30	.17	14.0
3000	39/1.5	10.2	2.0	+	.28	.36	14.25
3500	39/1.75	8.4	1.8	+	.35	.39	14.25
4000	39/2	8.2	2.5	+	.52	.80	14.25

## Cost Evaluation

Assume 60¢/lb of Carbon & 15¢/lb for shipping if optimum level of absorption is taken at 39#C/.75Tons Soln

Then:  $\frac{600000 \times 10}{2000} = 3000 \text{ Tons}$

Therefore: 52lb/ton x 3000 T. x .75 = 117,000\$/day

Therefore: cost is financially impossible to cope with - also arsenic does not decrease.