

To D. J. Emery

Date..... January 8, 1970

From R. J. McLeod

Ref.

Subject..... Expenditures for Arsenic Control

The following is the chronological order in which expenditures were made in order to control arsenic pollution at Giant Mines since the start of operations. This order does not include underground expenditures.

From the start-up of operations in 1948 until January 24, 1949, there was no arsenic pollution to control. Flotation concentrate was stored from May 13, 1948, to January 24, 1949.

On January 27, 1949, feed was delivered to two Flat Hearth Furnaces at the rate of 25-30 tons per day. This would be the date at which arsenic trioxide was expelled to the atmosphere.

On October 27, 1951, a Cottrell Plant commenced operation to collect arsenic trioxide expelled from the roasting operation.

On February 16, 1955, a second Cottrell unit was installed to improve collection of dust and arsenic. This was not satisfactory, so on November 15, 1955, both sections were used as cold Cottrells collecting arsenic and continued to be used for that purpose until the Baghouse was erected.

On November 4, 1958, an efficient Baghouse was put in operation and has been an integral part of our operation ever since.

The following is the capital cost and operating expense of the various units used since October 27, 1951, to control arsenic pollution.

	<u>Capital</u>	<u>Operating</u> <u>Cost</u>
Cold Cottrell October 27, 1951	\$ 328,760.00	
Second Cottrell February 16, 1955	\$ 305,489.00	
To November 4, 1958		\$ 175,926.00
Baghouse	\$ <u>200,168.00</u>	
Total Capital Cost	\$ 834,417.	\$ <u>271,365.00</u>
Total Operating Cost	-	\$ 447,291.00

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In September of 1967, a further treatment for pollution was put into use to control soluble arsenic in the mill effluents. There were no capital expenses incurred.

Lime Costs for 1968 \$ 30,394.

Lime Costs for 1969 \$ 36,679.

Total cost for Pollution Control to
December 31, 1969 \$1,348,781.00

RJM/mw

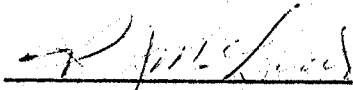

R.J. McLeod
Mill Superintendent

TABLE 3. LABORATORY RESULTS OF SETTLED DUST ANALYSES

Surface Deposit Location	Arsenic Content of Settled Dust, % by weight	
	Soluble Fraction	Insoluble Fraction
Crushing Plant, Giant	0.006	1.39
Crushing Plant, Con - above screens	0.011	0.33
Cottrell, Giant	2.01	3.41
Baghouse, Giant - 1) near arsenic pump, on top of duct	62.6	1.60
2) near stairway to second level, on adjacent ledges	3.15	39.3