

To Mr. R.J. McLeod  
From Peter Slattery  
Subject ARSENIC SUPPRESSION - INTERIM REPORT

Date April 26, 1967  
Ref. PS/dp

(a) Wash Thickener O'Flow Arsenic Treatment

Test 12	lbs. As. per day		lbs. As. per day
Dorrco W.T.O'Flow	61.0	Calcine Residue repulped	3.0
Mill W.T. O'Flow	30.1	with Calcine Barren	
H.C.D. W.T.O'Flow	115.8		

The effect of continuous mixing, by rolling was investigated.

lb. per ton line	Hours on Rolls	% Arsenic Reduction
Nil	Nil	20.5
Nil	24	35.4
2	Nil	72.8
2	2	90.2
2	24	98.6
2	Nil	42.4 (diluted with water to be)
2	24	96.0 (equivalent to mill waste)

These tests confirm that not more than 2 lbs. per ton of lime is required to precipitate the arsenic and prevent desolution of approximately 2,500 lbs Arsenic in the Calcine Residue, and with this amount of mixing, optimum amounts of lime could be used.

(b) H.G.D. Residue Treatment

The addition of Sodium Carbonate as part of the protective alkali in the cyanidation of H.C.D. has been discontinued. This has reduced the arsenic in solution to 26.8 lbs. As. per day, that is approximately half of the previous amounts found. The gold losses have remained steady.

Mixing tests with lime and iron show promise, but results indicate that there is arsenic being dissolved from the residue solids when rolling is extended from 2 to 24 hours. Further work should produce a working optimum, which could be put into practice.

When the optimum for each is established then mixing and dilution problems can be considered.

P. Slattery