

MEMORANDUM

To H.E. Pawson
From R.J. Tucker
Subject Waste Treatment - Precipitation of Arsenic from filtered D.T.B. (CaO & FeSO₄)

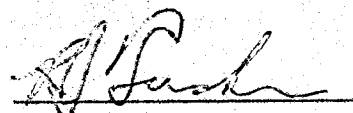
Date February 20, 1975
Ref. Fe-3

A third series of tests was run to check the results of the first two sets of D.T.B. tests. The initial results of 2 - 5 p.p.m. arsenic achieved by the addition of lime and ferrous sulphate were originally attributed to the presence of the ferrous sulphate. However, the inability to achieve similarly low As. levels when working with the total carbon plant waste stream lead to the belief that it was the absence of solids rather than the presence of ferrous sulphate which improved the arsenic suppression.

Four tests were run using 200 ml portions of the D.T.B. for February 15th (1650 p.p.m. As.). Two samples were taken from each test for arsenic analysis. The first sample was of clear solution pipetted off after settling and the second sample was of filtrate after 30 seconds of violent agitation of the remaining solution with the precipitate.

No.	CaO (lb/ton soln.)	FeSO ₄ (lb/ton soln)	Method of pH Addition	As. (p.p.m.)		
				Clear	Shaken & Filtered	
1.	20	---	---	11.4	6.8	2.6
2.	20	1	CaO &	11.4	4.6	2.6
3.	20	2	FeSO ₄	11.4	4.2	2.6
4.	20	2	together FeSO ₄ added first then CaO	11.4	4.2	2.6

Although the analysis of the clear solutions indicated a slight improvement due to ferrous sulphate addition, no difference was found after violent agitation.


R.J. Tucker
Mill Metallurgist