

To H.E. Pawson; W.L. Richardson
From M.E. Lane
Subject Use of Ferrous Salts in Waste Treatment
Date April 19, 1972
Ref.

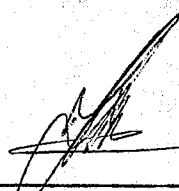
Further tests were carried out with Ferrous Sulphate to improve Arsenic precipitation in the waste treatment circuit.

Results of tests on the individual solutions (the two wash thickener overflows, carbon plant barren solution, and carbon plant thickener overflow) were inconsistent and not very encouraging - little improvement seemed possible when Ferrous Sulphate was used with the lime. The best results were obtained when Ferrous Sulphate was added to the #8 Agitator discharge. By this means the Arsenic content was reduced a further 66%, from 10.5 ppm. to 3.6 ppm.

It may be worthwhile pumping #8 Agitator discharge to another agitator and adding Ferrous Sulphate at this point. It is difficult to tell whether any increase in cost would be involved, but in a trial period we could try reducing the lime addition and replacing some of it with a smaller amount of Ferrous Sulphate.

Two samples from Harrison and Crossfield were also tested. The Ferrous Sulphate compared favourably with the Fisher Scientific reagent, but the Ferric Sulphate had no effect on Arsenic content of waste solutions.

MEL/mw


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NB. Better results were obtained when the Ferrous Sulphate was added in solid form, rather than as a solution.