

MEMORANDUM

H.E. Pawson; W.L. Richardson

April 19, 1972

To M.E. Lane

Date

From Use of Ferrous Salts in Waste Treatment

Ref.

Subject

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

M.E. Lane
Mill Engineer

10.5 ppm is acceptable at present as no further expenditure justified