

To A.K. Campbell; File
From H.E. Pawson
Subject Soluble Arsenic

Date February 8, 1972
Ref.

There has been a significant rise in soluble arsenic discharge during November, December, and January. As noted in a memo to you December 2, 1971, from M.E. Lane, modification of the waste treatment circuit was being attempted with a view to improving precipitation of arsenic while decreasing lime consumption.

During this period the #6 thickener overflow was checked and found to have 10 to 11 p.p.m. soluble arsenic at the time of test. Since this level was lower than that ordinarily discarded after lime treatment, it was assumed that bypassing the #6 direct to tails would lower the load in the lime treatment agitator and, consequently, result in a lime saving. This was done at the beginning of November.

In December, the #6 was sampled again with the result that the soluble level appeared to have climbed to 32 p.p.m. Immediately upon discovering this, the #6 overflow was returned to follow the original circuit.

Studies carried out in late December and early January revealed that the #6 overflow could indeed be treated separately with minimal lime, but could not be discarded without treatment. It was found that a small amount of lime converted the ferrous hydroxide to ferric and occluded the soluble arsenic ions. The stability of the insoluble arsenic would depend on the acidity of the retention area. Be that as it may, resumption of the former treatment should guarantee lower soluble arsenic levels in February.



H.E. Pawson
Mill Superintendent

HEP/w