

M E M O R A N D U M

May 13, 1976

To: Merley McCall

From: Douglas Houck

Subject: Reason and Purpose for the
Special Survey on the Renton STP

The Metro sewage treatment plant at Renton is an activated sludge type plant which over the past years has been reporting five day BOD values in the 4-10 ppm range. It is because of these reported values that their NPDES monthly average permit limit for BOD₅ is now 15 ppm. A year ago, due to the reported toxicity of their chlorinated discharge the plant was required to dechlorinate with sulfur dioxide gas. This brought the chlorine residual down from 1.0 ppm to 0.3 ppm. At first this did not cause any difference in the plant's effluent BOD₅. Last summer the plant's effluent BOD₅ began to rise and by August the BOD₅ was 40-60 ppm. By November the BOD₅ values had dropped to 10-15 ppm.

It is Metro's contention that the rise in the BOD₅ values are a direct result of nitrification during incubation of the BOD sample. The reason for this nitrification they say is because they are now taking their 24-hour composite samples after the effluent has been dechlorinated using SO₂. In a letter to Robert McCormick dated March 16, 1976 they state that to meet their effluent BOD₅ limit they are either going to have to change their analytical methodology or the state will have to change their BOD₅ limits. They would like to either change their sampling location or use a nitrifying inhibitor in the BOD test. The nitrifying inhibitor they wish to use is 2-chloro-6-(trichloromethyl)pyridine distributed by Hach Co.

To prove their contentions a special study was done by R. E. Finger, the head chemist at the plant. I have reviewed this study and believe that it does not conclusively show that the increase of their BOD₅ is a result of nitrification during the BOD test. Mark Premo of the Northwest Regional Office asked for assistance in trying to determine if they do have a nitrification problem and if so, how much.

The purpose of this special survey with its resultant large lab load is aimed at answering those questions. The reason for the timing of the survey is because Metro is seeking to change many of their NPDES permit limitations and stipulations and Mark Premo needed this data before the regularly scheduled Class II inspection.

DH:ee

cc: Ron Pine