TO: R. WARD, C&P CHAMBERS WORKS 5/14/87

FROM: BOB FALLON, HASKELL

RE: RESULTS FROM FIRST LEAD ANALYSIS

CC: D. CREGAR, E. LESER

The second set of tests for microbial growth have been completed. Enrichments of the well water with nutrient media showed growth from both wells 31(HIGH LEAD) and 21(LOW LEAD). If garden soil was added as a source of microbes, strong growth also occurred. Some data was still indicative of low microbial numbers in well 31. Total heterotrophic microbes (from plate counts) and sulfate reducing microbes (dilutions in liquid API sulfate reducer broth) were both much lower in well 31 than in well 21. Soil from the basin showed very good microbial activity. Overall, the results appear to show that poor growth in well water samples is the result of low bacterial numbers rather than toxicity. These results show that toxicity of the well water should not be a problem, indicating that we should go on to examine the biological degradation of organic leads.

Specific results:

	#31	#21	Basin Soil
Numbers from aerobic plate counts on TSA	105	2152	600,000 — 3
Growth in enriched water without added soil(aerobic)			
mpc	+	+	+ } 3x 9ml 27
mpc + PO_4	+	+	ND 27
mpc + charcoal	+	+	ND 27
Sulfate reducing Activity	-	+(@10^{-1})	ND 3 3x -1ml 3
Growth in enriched water without added soil (anaerobic)			
mpc	+	+	+ } 3x 9ml 27
mpc + PO_4	+	+	ND 27
mpc + charcoal	+	+	ND 27
Anaerobic growth in water diluted in thioglycollate broth	+	+	ND 3f — 1ml 3

In light of these data and the lead chemistry results, I have gone

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250ml

onto the next stage in the preliminary experiments: testing the effects of various killing methods on the lead spectrum.

When you have had a chance to discuss these data with the appropriate people, will you please phone me regarding your (collective) opinions.

Bob Fallon