

February 22, 1962

Memo to: Dr. Robert A. Kehoe
From: T. Sterling
Subject: Analysis of California TML Study

The changes observed in the excretion of lead and in the blood picture of workers (who switched from handling TEL containing products to those containing TML) are of such consistency and magnitude as to preclude any chance factors. The pattern of results would ordinarily force only one conclusion on the investigator; namely, that underlying changes in physiology or body chemistry had taken place during the period subjects handled TML. It is true that the data were collected in a somewhat haphazard and cavalier fashion. However, the most important findings are based on laboratory analyses of urine and blood samples and may be above reproach.

It is a great misfortune that the medical follow-up data turned out to be useless. The results available now would make it appear desirable to complete the collection of all the data and do it in the form originally planned as well as to extend the follow-up on the laboratory analyses for an additional year.

Lead Levels in Urine and Blood

1. Data on lead in blood and urine were almost complete. Five urine samples were obtained during the year of study while two blood samples were taken, one in the beginning the other at the end of the study. These data are presented in a series of tables at the end of this memo. Consecutive examinations are identified as "Rounds" one to five. The number of samples are given in the second column of each table. Statistical evaluation of differences observed between consecutive rounds are based on Analyses of Variance. The statistical analysis is made extremely complex by the fact that, while most measures were made repeatedly on the same subjects, not the same number of subjects was tested each round. The analyses are not reproduced here. When the probability of finding, by chance, a variation among means as large as the one