INDUSTRIAL HYGIENE DEPARTMENT

PERSONNEL STAFF GENERAL MOTORS CORPORATION

April 26, 1962

Dr. John H. Ludwig
R. A. Taft Sanitary Engineering Center
4676 Columbia Parkway
Cincinnati 26, Ohio

Dear John:

My comments regarding the Hofreuter, et al, paper are not intended as corrections of this specific text but to reflect my thinking on matters which should be considered in drafting the consolidated report of the three city lead study.

The first sentence of the introduction does not, in my opinion, state the true objectives of the lead committee. As a substitute for future reports I would recommend that the third recommendation of the Surgeon General's Ad Hoc Committee be quoted in its entirety. It is my opinion that we are looking at the entire picture of atmospheric lead and not solely the contribution from gasoline additives.

Increased exposure as indicated by deviations in the blood or urine lead values for garage men or attendants at traffic lane inspection stations should be considered and treated in the same manner as any industrial occupation. As you recall the purpose of looking at groups of this type was to define the magnitude of the lead problem at operations directly influenced by ethyl gasoline. Indirectly we plan to use these data to indicate the degree of hazard at locations where increased concentrations of exhaust products could be anticipated. It is the thought that if these people did not show a degree of lead absorption which would be of concern, it would be logical that increases in lead content

of gasoline would not be detrimental to the public. The presence of elevated blood levels in groups of garage men and inspection lane workers does not support the statement that lead in exhaust makes a significant contribution to the total atmospheric lead content.

As was pointed out at Wilmington, the contribution of lead in the atmosphere of police firing ranges should not be overlooked in any discussion centering on this group.

Since I am not a statistician I do not appreciate the merits of statistically treating a relatively small group of results and quoting levels to the fourth decimal place when it is admitted that the accuracy of the analytical methods is ±.01 mg. of lead per 100 g. of blood. As I interpret the lead data to date we are finding levels of .01 to .05 mg. of lead per 100 g. of blood. These findings correspond with normal levels which have been quoted for many years. Since the present findings do not indicate a significant increase I raise the question as to the need for such an elaborate statistical treatment. If it is desired and considered necessary, Tables I, II and III and similar material should be an appendix item and not in the body of the final report.

Personally, I find frequency distribution tables of blood lead values informative, helpful, and practical. I offer to the Working Group for their consideration the inclusion in the final report of tables patterned after the following hypothetical example.

FREQUENCY DISTRIBUTION
(All Subjects)

Blood Level mg./100 g.	Cincinnati Study	Philadelphia Study	Los Angeles Study
.00	0	0	0
.01	200	180	190
.02	225	200	190
.03	20	25	16
.04	4	7	2
.05	1	0	1

Geom. Mean, etc.

KE 0004720

If desired, a fourth column with appropriate heading could be inserted in the table to cover a reliable published study which serves as the basis for the range of normal values quoted in the literature. If desired, similar tables could be used for grouping of data related to specific groups.

Yours very truly,

V. J. Castrop

V. J. Castrop, Director
Industrial Hygiene

VJC:cj

cc: L. C. Burroughs
D. R. Diggs
H. Hesselberg
R. A. Kehoe, M.D.
J. A. Maga
C. L. Samuelson, M.D.
R. O. McCaldin, Ph.D.