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ORGANIC CHEMICALS DEPARTMENT
PETROLEUM CHEMICALS DIVISION

April 13, 1962

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Dear John:

As agreed at the last meeting of the Working Group, I have reviewed the paper by Hofreuter, et al, on the blood-lead studies in Philadelphia. I have the following comments.

1. The data handling operations were reviewed by one of our statisticians. We have no quarrel with the statistical techniques which were applied to the data nor in the mathematical results thereof. However, it is difficult to assess the adequacy of the data handling without studying the raw data. It is possible that we may wish to have copies of the raw data and to perform a statistical treatment ourselves as a check. However, I will not request that you supply these data at this time; rather I will wait until the comments of the other Working Group members have been received to see whether it is the consensus that another statistical treatment is desirable.
2. I am somewhat disturbed by the failure to pin down certain alleged effects where the data presumably exist to do so. For example, it is stated that the survey included individuals with chronic disease, but nothing is said about how they relate to the rest of the population; also it is alleged that downtown females may be exposed to less lead from occupational sources than the downtown males. I would think that this point could be established on the basis of occupational histories which, it is said, were obtained.

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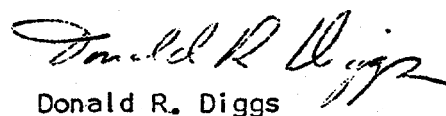
3. I object to the statement on Page 2 that Philadelphia residents are exposed to the greatest risk of lead in the atmosphere. It has not been established that there is any risk from the current lead levels in the atmosphere nor does it now appear that lead in the atmosphere is highest in Philadelphia.
4. I wonder about the propriety of synthesizing values for cross classification where too few samples were obtained. (Page 4). It seems to me that this procedure might unduly bias the final results.
5. The contention which is evident throughout the paper that blood-lead levels are higher when the lead-in-air values are higher has essentially no support from the data since no air loadings are given. It would seem that such a conclusion should follow, not precede a reporting of the air values. It is stated that no difference was found between downtown males and policemen on the basis of blood-lead. It seems a fairly convincing argument might be made that these people are exposed to different levels of air pollution. This certainly might be better documented by reference to place of residence and occupation of the downtown males. The difficulties in this area and the undesirability of considering only a small part of these studies independently are indicated by comparing the Los Angeles and Philadelphia data. The Los Angeles policemen have lower blood-lead values than the Philadelphia policemen, while on the basis of the data now on hand, Los Angeles seems to have higher values for lead in the air.
6. In reading this paper, I get the general impression that more attention is paid to explaining the results in terms of what the statistics show rather than in terms of the causative factors. To sort these effects out to the satisfaction of the individual Working Group members may require that each of us examine the raw data.

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7. The position of the males in the chart of Table 4 is apparently plotted in the wrong place.
8. There are a number of expository statements in the paper which I would prefer to have worded in some other way. However, it does not seem worth-while to comment on these details since it is my understanding that this paper will not be used except among the Working Group members.

After reading the foregoing comments, I am more impressed with the points John Maga made at the last meeting as to the limited value of our comments at this time. It does point out, however, that we should concentrate on getting as much numerical information from the data as we can so that we may intelligently compare data from the three cities, only arriving at conclusions which can be supported by the totality of the data. I think it might be worth-while to discuss the general area of data handling at the next Working Group meeting; by that time presumably everyone would have had a chance to struggle through the Philadelphia data and this experience may be helpful in charting our future course.

Very truly yours,


Donald R. Diggs

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