

August 20, 1945

Mr. J. H. Schaefer,
Ethyl Corporation,
Chrysler Building,
New York City 17.

Dear John:

I have your letter of July 30 with a series of enclosures of information concerning the stack extensions at the two manufacturing plants.

It is interesting that this subject should have come up at this time, for I have just returned from Deepwater where I saw an interesting phenomenon that bears on this problem. It is quite certain that increase in the height of furnace stacks has not improved the situation in the Deepwater lead area. In fact, quite apart from the air analyses it seems probable that the situation is worse rather than better. When I was there I stood down the wind from one of these stacks for some minutes in a virtual shower of particles of lead oxide clumped together in such a way as to make pieces all the way from small visible flecks to pellets larger than a pea. The area in which I was standing was beginning to be white with these deposits when I left it. On inquiry I was assured that this happens not infrequently and that it is worse since the extension of the stacks. It appears that finely divided oxide collects on the sides of the stacks and is sheared off by the air current passing through the stack at a velocity which is higher now than it was when the stack was lower. This in itself is a serious situation, and it will have to be corrected by some means. I am referring to it in a memorandum of my visit which I am sending to Dr. Plunkett and Mr. Stecher. The memorandum has not been written as yet, and so I would appreciate it if you would make no reference to these comments until some days have elapsed.

There are a number of factors that have influenced the results of air analyses. One of these certainly is the change in the collection of samples of air for analyses. After talking with Dr. Plunkett and with the analyst at Deepwater I am convinced that the change in procedure has been responsible for a fair proportion of the elevation of the results. You may remember that I have been commenting on this phase of the work for quite some time. I am quite sure that some further improvement in the technique of sampling will further increase the incidence of high results among the analytical data. I pointed out for years that the air analyses have disagreed with the analyses of excreta and that, therefore, they could not be right. I am not in the habit

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of being arbitrary, but I know that the results of the excretory studies are sound and valid. For this reason I have not spent any large amount of time studying the data of the air analyses, for I consider them only a very minor feature of our information. They can be made representative and satisfactory, and I believe we are now on the point of doing this. In any case the present data of air analyses indicate clearly the existence of hazards of the same type as those demonstrated by the excretory analyses. That is to say, there are certain locations in which men tend to be exposed fairly frequently to the vapors of tetraethyl lead. There are other areas in which there is undue exposure to lead dusts. Moreover, there is a tendency for the exposure of lead dusts to be rather widely descending.

My general reaction to the changes in stacks instituted at Deepwater is that the removal of lead vapors by elevation of vent lines is justified both on theoretical and practical grounds, but it has not been proved yet that this change has resulted in any measurable diminution of the lead concentration in the air in the lead area. Nevertheless, ordinary observation seems to indicate rather clearly that vapors do not hang around in the area as they did formerly. This is not very satisfactory evidence I admit, but until we have some analytical method whereby we can distinguish certainly between tetraethyl lead and lead dust in air, we shall find it very difficult to prove this point. The elimination of lead dusts from the area by means of increasing the height of the furnace stacks, has not been accomplished to any satisfactory degree, and I am confident that a further expenditure for this purpose cannot be justified at this time on any rational basis. Consequently I would not be willing to approve a project for an expenditure of this type. It may be that we shall have to resort to high stacks of the type used in a number of other industries in which this problem exists. On the whole, however, I am disposed to feel that the ultimate procedure will be that of removing particulate lead from the stack fumes by electrical precipitation or by some comparably effective means. Incidentally Dr. Plunkett seems to be of this opinion also.

Thanks very much for the letters and the data which I return herewith in accordance with your request.

Sincerely yours,

Robert A. Kehoe, M. D.

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Enc.

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ETHYL CORPORATION

MANUFACTURING AND TRAFFIC DEPARTMENT

PLEASE ADDRESS REPLY TO
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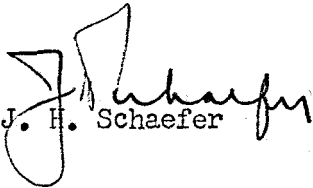
July 30, 1945

Dr. R. A. Kehoe
College of Medicine
University of Cincinnati
Eden & Bethesda Aves.
Cincinnati, Ohio

Dear Bob:

Enclosed is a file of some of our inter-office correspondence concerning Baton Rouge stack extensions and present performance of such extensions now being operated at Deepwater. This is for your information and comment. Please return the attached at your convenience.

Very truly yours,


J. H. Schaefer

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Enclosures

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