May 5, 1936

Mr. D. C. Cooper
Insurance Section
Shell Petroleum Corporation
Shell Building
St. Louis, Missouri

Dear Mr. Cooper:

Your letter of April 17th addressed to the Ethyl Gasoline Corporation concerning a compensation claim of one [redacted] has been referred to me for reply.

After examining the information available, I should consider that the evidence of exposure to lead is entirely inadequate to justify the diagnosis of plumbism in this case. The man's condition is not typical of lead intoxication, but is much more in line with the doctor's original statement that the case was obscure and that a number of diagnoses were suggested by the illness and its course. In view of the fact that the nature of the case is not clearly established, a diagnosis of lead poisoning would certainly be a poor guess. In order to make it tenable at all, the evidence of serious lead exposure and of increased lead absorption would have to be unassailable. In the absence of such evidence, all one can say is that such a diagnosis is extremely bizarre and that it is probably the least likely of all the other suggested causes. In the first place there is no reason to believe that this man had any exposure to pipes which had carried concentrated tetraethyl lead without subsequently being washed out with gasoline. Thus the lead concentration in any pipes which he may have handled would necessarily have been low. There is, of course, a great possibility that some exposure to lead was had as a consequence of burning pipes painted on the outside with lead paint. Even this type of exposure, however, could hardly be expected to result in the serious picture described in the patient, unless it were more or less continuous and quite severe. (Cases of acute lead poisoning are seen occasionally in connection with cutting up metal heavily coated with lead paints. Such cases do not result, however, from the occasional handling of such painted objects, but rather from a number of days or weeks of such work on bridges, ships and similar painted objects.)

In the second place the clinical evidence does not resemble tetraethyl lead poisoning as it has been seen in a number of cases up to this time. The claimant's doctor's statement, therefore, that tetraethyl lead "frequently produces the

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picture displayed in this case" is entirely in error. No bona fide case of paralysis has ever been seen in tetraethyl intoxication. The picture is rather that of a general central nervous system intoxication with predominantly mental symptoms.

Third, there is a more logical cause for the man's illness in that the course and findings suggest an infectious central nervous system involvement. In the absence of definite proof of abnormal lead exposure and of abnormal lead absorption, one is not justified, therefore, in suspecting lead as a causative factor.

From the description of this man's occupation, I should be very much inclined to doubt that he had any significant exposure to tetraethyl lead and its decomposition products, or to any other lead compounds.

For your further information allow me to refer you to a description of characteristic tetraethyl lead intoxication as described by my associate Dr. W. F. Machle in the Journal of the American Medical Association for August 24, 1935, Vol. 105, pp. 578-585. I am attaching a copy of this reprint to my letter for such use as it may be to your medical men. If I can be of any further assistance, please do not hesitate to write me directly.

Very truly yours,

RAK:ls

Robert A. Kehoe, M.D.