

April 24, 1934

Mr. George W. Cunningham
Legal Department
Shell Petroleum Corporation
Shell Building
St. Louis, Mo.

Dear Mr. Cunningham:

After reading your letter describing the complaints of the plaintiff in the suit against the Shell Petroleum Corporation, I am impressed by the difficulty of putting one's finger on what may eventually be the nature of his claim of injury. However, it would seem likely to me in view of the difficulties and misunderstandings which have been associated with the handling of Ethyl Fluid and of leaded gasoline, that the complaint of injury may settle around this point. This is particularly the case since the claimant has apparently described certain symptoms which resemble in some respects those which have been attributed to exposure to tetra-ethyl lead. I shall be glad to send you herewith references to articles in the literature which may have some connection with this problem, and I shall send you some reprints under separate cover which deal with the problems of lead absorption and exposure to Sulphur Dioxide. It may be of more use, however, at the present time to outline the way of approach to the problem of lead absorption in the manner in which I believe it should be done.

First, exposure to Ethyl Fluid and exposure to Ethyl Gasoline are two totally different things. Definite exposure to Ethyl Fluid is dangerous and persons who have occasion to handle Ethyl Fluid must be surrounded by a number of important safeguards in order to avoid poisoning. Exposure to Ethyl Gasoline on the other hand, is not dangerous. There have been no cases of lead poisoning as a consequence of such exposure, and moreover, the evidence is very sound indeed to indicate that the ordinary handling of leaded gasoline does not result in the absorption of lead. The reasons for this and in fact the entire presentation of this subject can be found in a recent article from this laboratory which appeared in the March number of the Journal of Industrial Hygiene. I do not have a reprint on this article at present but expect to have shortly, and I will send it on to you as soon as I receive it. In the meantime I suggest

that you examine the article since you will have access to this Journal in some one of the medical and scientific libraries of your city.

So far as our records go, there is no evidence that this claimant had been involved in the handling of Ethyl Fluid. However, it is of the utmost importance in the prosecution of your case to have the facts and to bring out clearly such facts as to whether in any way this man had been exposed to, or had handled any Ethyl Fluid. In the same fashion it will be necessary to obtain the facts as to whether or not he had exposure to lead in the form of litharge. The exact nature of the exposure in each case should be described and the duration of the exposure should be made a matter of record, and there should also be testimony, if necessary, as to the severity of such exposure. I base the above suggestions on the points which it is necessary to cover in order to prove or disprove the occurrence of lead poisoning. In order to prove the occurrence of lead poisoning, one must present the following points clearly: (1) A history of exposure to lead under conditions which are known to have produced cases of lead poisoning. (2) The occurrence or development of symptoms or signs which are characteristic of, or compatible with the diagnosis of lead poisoning. (3) Evidence that under the conditions existing, lead compounds were actually absorbed into the body in significant amounts.

Conversely, to describe the occurrence of lead poisoning one must be able to demonstrate, (1) that the individual did not have such exposure to lead as is commonly productive of cases of lead poisoning; (2) that his symptoms and illness can be explained by other causes, and (3) that he did not actually absorb lead in amounts sufficient to produce injury.

It is obviously difficult in court cases to present the complete evidence either in proof or in disproof of the occurrence of lead poisoning. One must, therefore, do as well as he can. I would suggest the necessary, therefore, of making a careful survey of Mr. Lumme's occupational exposure to a variety of things and to the determination, on the basis of expert judgment as to whether these exposures were sufficient to produce injury. In order to be useful, the information as to his occupation must be obtained in great detail, and must be capable of substantiation either on the record of his employment or on the testimony of reliable witnesses. Thus the character of his illness should be examined into with the utmost care in order to determine his previous history of illnesses and his present condition in order that one may, if possible, make an exact diagnosis of his present ill health, and also in order that one may estimate his present disability. The examination should include the obtaining of any laboratory evidence in the form of X-rays, blood examinations, and the accurate examination of excreta for lead, and of other things which may be of use in arriving at a diagnosis.

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I may as well state here my feeling that it would be inadvisable to have such examination carried out by me. It would be best, I believe, to obtain the services of the most competent and most trusted local internist and to so provide that he can make the exhaustive study that is necessary in arriving at a diagnosis. I am not in position to recommend such a man in Tulsa, but it would appear to me that you can obtain competent information locally upon which to base a selection. If this is done I should be glad to correspond with him in advance as to the precise information which I should like to see obtained with relation to lead. I should be glad also to have samples collected and to see that the analyses are made in this laboratory so that the results may be recognized as entirely trustworthy.

As to the nature of the services which I might best render to you, I should say that such information as is obtained in your survey of his exposure, and in the medical examinations might well be submitted to me for interpretation, especially in regard to lead exposure, and if then it seems advisable that I appear in the case as an expert on lead poisoning, I should be glad to do so if in my judgment the claimant's illness has no relationship to lead absorption. I feel sure that it would be better far for me to appear as an expert on this subject without having examined the man than if I had seen him. However, if it seems advisable, I can subsequently meet with council and go over the details of the case and can then give such advice as I am able to give concerning the significant of the facts available, and concerning the manner in which it seems to me they might best be presented.

You will find enclosed a list of publications which I think it may be useful to you to examine in connection with this claim.

I should be pleased to have your reaction to the suggestions which I have made, and although I am very busy and find it difficult to leave Cincinnati, I should be glad to be of such service to you as I can even if a trip is required for the purpose.

Very truly yours,

RAK:IS

Robert A. Kehoe, M.D.