

March 12, 1956

Mr. Lee R. Hill, President
Westric Battery Company
4201 Galapago Street
Denver 16, Colorado

Dear Mr. Hill:

I shall attempt first to answer the direct question in your letter of March 3, after which I shall venture some unsolicited words of advice.

The application of analytical methods to suitable samples of urine, or better still, to suitable samples of blood, or still better, to samples of both urine and blood, for the quantitative determination of their lead content, is a sound procedure for the appraisal of the significance of their exposure to, and absorption of, lead. It is the only type of procedure which is so based on physiological facts and principles as to enable one to make such an appraisal in time to prevent dangerous absorption of lead.

The "Blood Stipple" method, as you have called it, is that of examining stained blood films on glass slides by means of the microscope to estimate the frequency of occurrence of a certain type of structural change in the red blood corpuscles. This method is not specific for lead, the results vary without necessary relationship to the extent or significance of the individual's absorption of lead, and while the procedure serves to some extent to be helpful in the diagnosis of lead poisoning, its use as a measure of prevention is deplorably unsatisfactory.

The lead hazards associated with the manufacture of storage batteries are such that effective means for the control of these hazards are an absolute necessity for the safety of the men. This involves always the application of sound control of the environmental conditions by good engineering. Except under most unusual circumstances it also requires careful, intelligent medical supervision. This does not of necessity mean that the services of a physician on a full-time basis are required. The time required depends upon the size of the plant and the number of employees, but it is the same in principle and method, regardless of the number involved. The methods of which you speak should be applied under the direction of the physician, who, alone, in the light of his other clinical information and his knowledge of the plant and its operations and characteristics, should interpret the results and recommend appropriate action as required. The use and interpretation of the tests of this type by laymen, nurses and technicians are in fact misuse and faulty interpretation,

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and under certain circumstances are actually illegal.

It is my suggestion that if you do not have a physician in charge of this activity, you should obtain one; that you should first assure yourself of his competence as a physician; that, if then, he is not sufficiently familiar with the problems and the means of handling them, you should put him in touch with properly informed people. I should be glad, for example, to give him such advice and assistance as I can, either at a distance, or through a visit by him to this Laboratory, plus putting him in touch with suitable publications.

I am assuming, of course, either that you have no physician to appeal to, or that your present relationship to a physician is unsatisfactory, since otherwise he would have written to me instead of yourself. It seems only fair to inform you, therefore, that you should not undertake to operate a hazardous manufacturing enterprise of this type without the direct advice and guidance of a physician who is competent in this field of occupational medicine. I realize fully that this is not always the case, and that is precisely why we continue to have unduly large numbers of cases of lead poisoning and claims of lead poisoning in the lead trades in this country, and especially in our storage battery plants. Satisfactory means of prevention are available, and they should be used. I shall be all too glad to assist you in putting them to use by helping a physician to help you.

Sincerely yours,

Robert A. Kehoe, M. D.

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Westric

BATTERY COMPANY

4201 GALAPAGO ST., DENVER 16, COLORADO • GLENDALE 7791

March 3, 1956

Kettering Laboratories
Cincinnati, Ohio

Gentlemen:

Your laboratory has been recommended to us by the National Lead Company as the outstanding authority on Lead Poisoning and the determination of lead in various individuals.

We have a problem here as to whether we should use the Urine Analysis method or the Blood Stipple method for the determination of lead content in our workers. Could you advise how we might go about getting recommendations from you all as to what you feel is the best method as well as safe limits.

Very sincerely yours,

WESTRIC BATTERY COMPANY



Lee R. Hill
President

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