

ETHYL ANTIKNOCK, LTD.

44 KING STREET WEST
TORONTO 1, CANADA

Dr. H. W. Sanders - Cincinnati

May 28, 1954

O.E. Lewis - P.F. Penrose - Toronto

Dear Les:

On May 25th, we advised you by 'phone that we had been notified of a possible lead exposure to four men out of a total of ten employed by the Toronto Iron Works who were engaged in a tank cleaning repair operation. The men's names are as follows:

[REDACTED]	- Age 47 - Title - Pusher	
[REDACTED]	- Age 21 - Title - Mechanic (Also welds & cuts)	
[REDACTED]	- Age 31 - Title - Mechanic	" "
[REDACTED]	- Age 30 - Title - Welder	" "

The job in question involved Tank #1, 35000 lbs. capacity, Floating Roof type, Sun Oil Company, Toronto Terminal. The tank had been in leaded gasoline service and was cleaned by the May Construction Co. (tank cleaning contractors of Toronto). The job was observed by 2 members of our firm, Mr. T. A. Huycke and myself.

On May 2nd, upon conclusion of the tank cleaning, a lead-in-air test was taken by the writer of the atmosphere below the Floating Roof and a reading of 1 microgram was obtained.

On May 5th, burning of the roof plates was commenced by the Toronto Iron Works crew consisting of a total of 10 men. As near as can be ascertained from questioning Mr. William Knox, Field Foreman for Toronto Iron Works, our recommended precautions for the use of dust masks and the welder's mask when necessary was fairly well adhered to. As will be noted from a copy of our letter attached, written to Mr. E. Dickson, Acting Field Superintendent, Toronto Iron Works on April 27, ~~the~~ the proposed job had been discussed in some detail.

One man of the crew had been assigned the job of wire brushing all plates where cutting was to be done, and he was equipped with a dust mask for the wire brushing operation.

On May 18th, the entire floating roof had been removed from the tank.

On May 20th, the above four men first complained of feeling ill. We were notified of this on Tuesday, May 25th, by Mr. George Duckworth, Field Engineer of Sun

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Oil Company. It seems that we were not previously notified of the complaints of ill feeling on the part of the men since the symptoms were very slight.

As cited to you in our 'phone conversation, their symptoms or complaints were those of having a slight upset stomach and as they termed it, the feeling of "butterflies" in their stomach. Upon questioning the men through the co-operation of William Knox, it was established that no other ill effects such as loss of sleep, poor appetite, nausea or general weakness, were experienced by the men. Several of the men complained also of slight sore throats and cracked or chapped lips.

It seems that prior to May 20th, the men, having worked continuously on the tank since the 5th, on a five-day, 8-hour basis, had removed the roof and started erecting a new cone roof using old plates from the previous floating roof on this tank. As cited previously, wire brushing of that area of the plates which would become heated during the welding operation was carried out prior to the actual welding operation. New steel channels were used for the roof rafters of the cone roof being fabricated.

Ill effects were first complained of following approximately a day's handling and welding of these plates from the floating roof of this tank which had been in direct contact with the gasoline. These plates referred to were those of the lower part of the pontoon roof.

It may be cited by us that several visits by our representative to the job during the repair operation were carried out for the purpose of further advising William Knox of precautions that should be followed in the dismantling and repair operation.

The actual inspection of the repair job being conducted on top of the tank was made by us following the notification that some of the men were feeling slight ill effects. The actual work was observed and it appeared at that time that there could be very little likelihood of lead exposure to the men. None of the other six men in this crew complained of any ill effects and they had also been engaged at times in the same operation as the 4 men cited.

Another observation which seemed to confuse any possible conclusion of a pattern that might be established as to exposures was that the man who did all of the wire brushing wearing a dust mask and also using a cutting torch for trimming plates preparatory to use on the new roof, complained of no ill effects.

Another lead-in-air test was made on May 25th by our representative and a zero reading was obtained.

Two points did, however, come to our attention that might be questioned concerning this operation --

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1. That evidently the men had, several days' previous to their discomfiture, gone into the tank to sweep up rivets, welding rod, iron oxide scale and so forth within the bottom of the tank which had fallen during the dismantling operation. At this particular time, the floor of the tank was wet and the roof had been completely removed so ventilation was perhaps at its best. For some strange reason, the men in this particular instance did not wear dust masks, the explanation being that as the bottom of the tank was wet, very little dust was raised and they did not feel they were necessary.

2. It was noted by us that some of the plates being used on the newly fabricated cone roof had aluminum paint on them and no precaution had evidently been followed concerning the burning and/or welding on the aluminum painted surface.

As instructed by you, we have contacted Dr. F. M. Griffin, physician in Toronto, concerning arrangements as to the examination of the four men mentioned. The prepared specimen bottle bottles have not as yet been received from your laboratory and as soon as they are at hand, arrangements have been made for their examination by Dr. Griffin's staff.

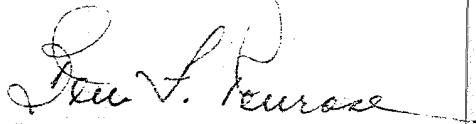
A continuous check has been conducted as to the welfare of the men in case it was felt necessary to get them immediately to Dr. Griffin, as suggested. The men are continuing work and are not now feeling any ill effects.

The Sun Oil Company Engineer and the Toronto Iron Works General Superintendent are highly appreciative of our action and the assistance rendered by your Department in looking after the welfare of these men.

Any comments or suggestions by your Department concerning this particular incident would be appreciated.

Kindest regards.

Very truly yours,


Ben P. Penrose.

LWP/ao
Encl.

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C O P Y.

ETHYL ANTIKNOCK, LTD.
44 King Street West
TORONTO 1, Canada.

April 27, 1954.

Mr. E. Dickson,
Acting Field Superintendent,
The Toronto Iron Works Limited,
629 Eastern Avenue,
Toronto, Ontario.

Dear Mr. Dickson:

At the time of our meeting yesterday at the Sun Oil Company, Toronto Terminal, mention was made to you that we would be pleased to forward a complete set of our safety bulletins for your files as listed below.

Cleanout Openings for Oil Storage Tanks
Precautions for Men Entering Tanks that Have Contained
Leaded Gasoline
Use and Handling of Tanks that Have Contained Leaded
Gasoline by those not familiar with Petroleum Industry
Safety Practices.
New Welder's Head-Piece for Work in Toxic Atmosphere
Cleaning Petroleum Storage Tanks, Section B - Gasoline Tanks.
The Hazard of Lead Absorption associated with the Cleaning
and Repairing of Gasoline Storage Tanks
Recommended Procedure for Dismantling Tanks that Have
Contained Leaded Gasoline
Memorandum on Tank Ventilation
Safe Handling of Petroleum Products.

We would call your attention to the bulletin entitled, "Recommended Procedure for Dismantling Tanks that Have Contained Leaded Gasoline." You will note from this bulletin that following the thorough cleaning of a leaded gasoline tank, certain precautions should be taken by men engaged in the dismantling operation to assure them adequate protection against the possibility of breathing dust which might contain lead compounds. Protection of your workmen on this operation may be accomplished by either the wearing of adequate dust masks and/or the coating of the plates with a light oil to prevent the creation and dissemination of dust during the dismantling operation.

If there is any further information we can furnish your Department, kindly advise, and we shall be pleased to consult with you on the matter.

Very truly yours,

ETHYL ANTIKNOCK, LTD.

B.F. Penrose

BFP/ap

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