



STANDARD OIL COMPANY OF CALIFORNIA

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March 24, 1959

SU-1-4700

TML PROJECT

D. A. Mahoo, M.D.
Kettering Institute of Applied Physiology
Cincinnati 19, Ohio

Dear Dr. Mahoo:

As discussed with you by telephone last week, attached is a copy of our proposed field test for TML. While certain modifications have been included, the test is still within the general framework of our discussion. Kindly advise should you have any suggestions for improvement.

We plan to take daily spot samples for lead in urine. This will require containers for up to 10 samples per day for about 8 weeks. We will start about the first week in April; however, this depends upon the delivery date of TML and the availability of blending facilities. Please bill us directly for all lead analyses.

As you are aware, it is exceedingly important that we proceed as rapidly as possible, seeking a suitable answer on TML. Since this will require close liaison and a considerable amount of your time, we would like to retain you as our Company consultant on this project. If it is agreeable with you, kindly advise us so that the necessary arrangements can be made.

Very truly yours,

J. A. SPENCE

Attachment

cc: Mr. J. L. Cooley
Mr. F. L. Craise
Dr. L. E. Curtis - 2/ Sqab.

KE 0004036

N 6829

PROPOSED FIELD STUDY COMPARING
FUELING OF GASOLINES CONTAINING TEL AND TML

The following outlines a suggested field test program to permit evaluation of the comparative lead hazard when fueling gasoline containing TEL and/or TML. Measurement of the air-borne lead and lead in urine levels will be obtained during the periodic fueling of gasolines containing TEL and/or TML in the Turk Street Garage of the San Francisco Yellow Cab Company.

If when using TML the concentrations of air-borne lead and lead in urine are not significantly higher than those found when using TEL, then it will be tentatively assumed the potential health hazards are the same order of magnitude. It would then appear justifiable to proceed with further development studies on TML.

TEL - GASOLINE

Run 3 consecutive weeks using tetraethyl lead (3 ml per gallon). Determine the air-borne lead concentrations and the lead in urine levels.

- (a) Air-borne lead - determine daily the total lead and particulate lead; obtain measurements to establish peak levels; record daily fueling loads in terms of gallons pumped per 15 minutes during peak operations.

As supporting data, determine carbon monoxide concentrations, temperature and air movement data, and record details of all cases of careless handling of gasoline or excessive exposures.

- (b) Lead in Urine - sample daily according to instructions being exceedingly careful to avoid lead contamination. Sample the following men:

- (1) Those pumping gasoline
- (2) Others in the same general area during a major portion of the shift
- (3) Calresearch personnel making the tests
- (4) As negative controls, 2 men in no way exposed to lead.

- (c) Consideration should be given to having all employees wear clean white coveralls daily. The degree to which they are stained will indicate carelessness in handling.

TML - GASOLINE

Run a second 3 consecutive weeks using tetramethyl lead (on an equivalent lead basis). To permit comparison, determine daily the air-borne lead concentrations and the lead in urine levels in similar fashion. Obtain other supporting data.