

INTEROFFICE CORRESPONDENCE

RESEARCH DEPARTMENT
Paulsboro Laboratory

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Visit to Ethyl Corporation, Mobil
Refinery at Trenton, Michigan, and
Mobil Sales Terminal at Trenton,
Michigan - Possible XRT 238 A Field Test

On April 30 and May 1, 1959, the writers visited the Mobil Refinery at Trenton, Michigan, and the Mobil Sales Terminal at Avery Avenue, Detroit, Michigan, to determine the suitability of these respective facilities for conducting a field test with XRT 238 A. While in the area, the writers visited the Ethyl Corporation Laboratory to discuss the relative merits of the four locations under consideration for conducting the test with XRT 238 A.

Each of the four locations has some drawbacks. It appeared that the truck fleet located at the Paulsboro Sales Office would appear to offer the most likelihood of meeting the requirements of:

1. Subjecting a few people to a reasonable exposure of gasoline containing XRT 238 A.
2. Being able to prevent undue exposure to personnel not placed under medical surveillance.
3. Being sufficiently free of other complicating factors so that it might be possible to conduct the test there.

It was agreed that the Socony Mobil Paulsboro Laboratory would provide the Ethyl Corporation Laboratory with detailed writeups concerning the facilities available for conducting the tests at each of the four locations visited by the writers. These would then be forwarded to the Kettering Institute staff for their consideration and advice regarding the suitability of the respective locations for a test. If one or more locations appears to be satisfactory, Dr. Kehoe and members of the staff at the Kettering Institute will accompany a representative of the Paulsboro Laboratory and the Ethyl Corporation on a visit to pass final judgment upon its suitability.

Details of the pertinent operations at the Mobil Refinery at Trenton and the Mobil Sales Terminal at Avery Avenue in Detroit follow:

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Mobil Refinery at Trenton, Michigan

Personnel visited were:

Mr. T. S. Lennox	-	Refinery Manager
Mr. Carl Winberg	-	Refinery Superintendent
Dr. E. H. Pothoff	-	Retiring Chief Chemist
Mr. Larry Mitchell	-	Chief Chemist
Mr. Ed. Wilson	-	Engineering Superintendent

In general, forty-six gasoline motor-driven units are operated by the Trenton Refinery personnel. This number includes twenty trucks, one passenger car, and one station wagon. The other engines are used to operate a variety of other equipment - mostly small. Total gasoline consumption is estimated to be about 70 gallons per day. The garage maintenance crew consists of one mechanic who does as much of the repair work as possible. During periods of a high incidence of repair work, some of the overhauls are farmed out. It did not appear that overhaul work of the type which would bring the mechanic into frequent exposure to gasoline was being performed at this garage. Primarily the repair work appeared to involve replacement of spark plugs (Spark plug fouling was noted to be a severe problem due to the low speeds and loads involved in their operation.), battery recharging or replacement, generator overhaul, and body work. There are no personnel classified as truck drivers. The equipment is operated by the individual who needs to use it in carrying out his assigned task at the moment. Similarly the vehicles are normally refueled by the individuals who are operating them at the end of the day.

The refinery personnel were very cooperative in discussing their facilities and offered to cooperate with us in the event it was decided their facility fulfilled the requirements necessary to conduct the test. The one drawback that appears at this facility is the very low exposure to the test gasoline of any of the refinery personnel - even if one man were assigned to do all of the refueling this would still be true.

Following is a list of the gasoline units operating in the refinery:

- 17 Ford trucks of various models and years
 - 1 Dodge truck
 - 1 Mack truck
 - 1 Studebaker truck
 - 1 Ford station wagon
 - 1 Ford passenger car
 - 3 Ford tractors
 - 2 Cushman Husky scooters
 - 1 Cushman truckster
 - 1 Hyster lifter
 - 1 Clark lift truck

- 1 Wankesha link belt
- 1 Krane Kar
- 1 Lincoln welding machine
- 1 International Harvester Knickerbocker cement mixer
- 2 Chrysler fire pumpers
- 3 Homelite pumps
- 1 Nova pump
- 1 Corman Rupp pump
- 1 Homelite generator
- 1 Graveley tractor (lawnmower type)
- 2 lawnmowers

In addition there are three fork lift trucks operating on LPG.

There are two 1000 gallon storage tanks in the refinery equipped for dispensing gasoline. One is located near the maintenance garage and is normally used to refuel the automotive gasoline engines. The other is located near the analytical laboratory and is used for various other purposes at the present time. Gasoline consumption by the vehicles is estimated to be about 70 gallons per day. The engines are currently refueled by the driver, but in order to increase the exposure of an individual to the gasoline it appeared that one or two individuals could be assigned to this task for one or two hours each day, and all of the vehicles could be refueled at that time.

Mobil Marine unleaded gasoline (premium gasoline basestock composed of reformat, alkylate and light TCC) could be procured from the refinery and transported to Ethyl Corporation where the XRT 238 A could be added. Then it could be trucked to the refinery tank as required.

Mobil Sales Terminal on Avery Avenue, Detroit, Michigan

Personnel visited were:

Mr. Jim Winterhalter	-	Detroit Division Supply & Distribution
Mr. Walt Lynch	-	Manager of Sales Terminal
Mr. Carl Jones	-	Chief Chemist

Fourteen trucks normally operate from this terminal delivering packaged lubricants. The vehicles are normally operated 8 to 10 hours per day and are refueled from a gasoline tank at the Avery Avenue terminal. Occasionally on long trips a vehicle will get gasoline on the road. Approximately 150 gallons of gasoline per day is pumped from the tank at the Avery Avenue terminal. Each driver refuels his own truck. The mechanical maintenance work is performed by the maintenance crew at the Mobil Sales Terminal at Dearborn. This same maintenance crew is involved in maintaining approximately 50-60 vehicles operating from the Dearborn Sales Terminal. Currently, a number of the

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vehicles operating from the Dearborn Terminal are involved in a test with another additive which is not expected to be completed before the fall of 1959. It did not seem wise to consider trying to run the two tests jointly unless it should develop that no other facilities can be found which would be suitable.

Mr. Winterhalter was very cooperative in seeking to develop a method whereby the field test on XRT 238 A could be conducted. He volunteered that there was one service tank currently at the Dearborn terminal and stated that if no other facilities were found he would cooperate in trying to make it possible to conduct the test jointly between the Avery Avenue terminal and the Dearborn terminal.


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