

INTEROFFICE CORRESPONDENCE

CO-273 P. LAB. (MIME)
(1-59)

RESEARCH DEPARTMENT
Paulsboro Laboratory

April 9, 1959

File: 413.31 and
617.12

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Building No. 1

Possible XRT 238 A Field Test

On April 2, 1959, the following individuals visited Mr. H. F. Hoover, Paulsboro Refinery garage foreman, to discuss the suitability of that facility for conducting a field test with XRT 238 A:

R. H. Perry - Fuels Development Group
C. J. DiPerna - Fuels Development Group
G. B. Myrtetus - Engine Test Section

Mr. Hoover was very cooperative in showing the writer the refinery garage facilities and in discussing the types of vehicles fueled and serviced therein. The garage operation is a fairly extensive one consuming some 22,000 gallons of gasoline per month. One-third of this amount is dispensed by pumps at the garage proper, while a tank truck delivers almost all the rest either directly to the vehicles and equipment in the Refinery or to a 1500 gallon tank which supplies the forklifts. Because of operating convenience, some selected individuals must refuel their own equipment from five gallon cans filled by the tank truck and deposited at convenient locations throughout the Refinery.

The garage staff consists of approximately thirty men who are engaged in the refueling, maintenance, and repair of all refinery vehicles and equipment. Major repairs to rental equipment (20 Chevrolet passenger vehicles, 16 welding machines, and 2 cranes) are performed by the rental firms; all other repairs are done by the garage staff. The forklifts, small portable equipment items, and occasionally some passenger cars and trucks are refueled by the driver; all other refueling is performed by the garage personnel.

The Refinery's gasoline driven equipment (over 200 items) includes many assorted types - passenger cars, various models of trucks and tractors, fork lifts, cranes, air compressors, welding machines, and portable pumps and generators - and covers a wide variety of operations, e.g., indoor, outdoor, heavy duty, long periods of idling, stop and go traffic, and highway cruising. Over 100 men are required to operate all this equipment.

KE 0002986

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With so many different operations and pieces of equipment involved, it is obvious that close medical surveillance of all personnel coming in close contact with the vehicles (refuelers mechanics, drivers and workers in nearby areas) would require a considerable expenditure of effort. If it should be considered safe to place only the refuelers and mechanics under surveillance, this operation would present a good opportunity to test XRT 238 A in a variety of handling and use operations. Of course there are means whereby the number of vehicles on test could be reduced. One way of reducing the size of the test would be to dispense the XRT 238 A gasoline from the garage pump only. Mr. Hoover indicated that it might be possible for the garage pumps to service some vehicles which are now being supplied with gasoline in the field. Another alternative might consist of eliminating the fork lifts and the can filled equipment from the program; then other normal handling operations, e.g. as garage and tank fueling, could proceed as usual. The fork lifts and can filled equipment would then have to be refueled separately by the Paulsboro Laboratory. The above plans are but a few that might be considered for any program involving XRT 238 A in the Paulsboro Refinery; it is probable that other modifications could be worked out but at some reduction in the efficiency of fuel handling.

The following is a more detailed discussion of the operations carried out in the Paulsboro Refinery garage:

A. Personnel Associated with Fueling and Maintenance

The garage has 8 shift workers and 5 breakers (men who fill in when shifts are not covered) who deliver gasoline and diesel fuel in a tank truck from the garage storage tanks to the following:

1. operating equipment in the field,
2. a 1500 gallon tank which supplies mostly forklifts, and
3. five gallon containers which operators use to refuel a number of selected pieces of equipment.

When not delivering fuel, the tank truck men perform garage maintenance jobs. Also employed are 14 shift mechanics who handle repairs from minor tuneups to anything short of a major engine overhaul. One other worker acts as a day time service attendant dispensing fuel from the garage pumps.

B. Type and Number of Refinery Equipment

1. Twenty passenger vehicles are rented by the Refinery. Most are used by individual employees and operated both inside and outside the Refinery. These cars are fueled from the garage pumps by the service attendant, two chauffeurs, or in some cases by the driver himself. Minor service, e.g., tuneups, is carried out by the garage crew, while Veit Chevrolet of Paulsboro performs more extensive repairs.
2. There are 53 trucks and tractors operating in the Refinery of many different varieties employing 38 drivers. These vehicles are refueled from the tank truck in the field whenever necessary. A portion of the trucks and tractors make deliveries outside the Refinery to points as far as Philadelphia. Other pieces of equipment which are directly fueled from the tank truck are 5 cranes, 8 air compressors, and 17 company-owned and 16 rental welding machines. Although most of this equipment normally operates outdoors, there could be some indoor application too. The welding machines also obtain gasoline from the garage pumps when maintenance on these units is conducted over the weekends.
3. Sixty-eight other vehicles including 54 fork lifts are also owned by the Refinery, and these require 45 operators. About 60 are fueled from a separate tank with delivery to the tank being accomplished by the tank truck. The capacity of this tank is 1500 gallons with consumption estimated at 800 gallons/month.
4. Cans filled by the tank trucks fulfill the need of the remaining vehicles and equipment. These include eight forklifts, portable generators and portable water pumps.

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