

REPORT ON A MEETING SPONSORED BY THOMPSON VITA-METER CORPORATION

At the instruction of Mr. Frey and at the invitation of Mr. C. H. Van Hartesveldt, Vice President of the Thompson Vita-Meter Corporation, the writer attended an all-day meeting in Cleveland on Tuesday, April 20th. Attached is a list of those in attendance.

The meeting commenced at Thompson's main plant on Cedar Avenue in Cleveland and the group was given certain basic information concerning Thompson's past, present, and proposed programs, after which we visited a laboratory containing a dynamometer stand upon which was mounted an automobile engine running on Vitol and gasoline. This demonstration was quite spectacular and resembled in all respects the classic Ethyl demonstration. The motor was running under a fairly heavy load on open throttle, on 58.0 octane number straight run unleaded gasoline. Vitol was being injected through a standard Vita-Meter fitting. When the flow of Vitol was cut off by means of a small hand valve, the engine knocked very badly. As soon as Vitol was again restored to the fuel, the speed picked up and the knocking ceased. We were also shown a number of test cars demonstrating different types of Vita-Meter installations. The group then embarked in cars furnished by Thompson and visited one of the Yellow Cab garages on the east end of town. This fleet is being converted 100% to Vitol and will consume approximately 50,000 gallons per month of 58.0 octane clear unleaded gasoline in combination with approximately 1,000 gallons per month of Vitol. Both gasoline and Vitol will be furnished by Canton Refining Company. The test will be under the joint direction of Yellow Cab and Thompson, and will cover not only standard metropolitan taxicab operation but also airport limousine service. The test was scheduled to begin April 28th and continue for an indefinite period.

The group then proceeded to the Cleveland district portion of the Standard Oil Company of Ohio refinery, where we were shown an installation which is currently being used by Standard of Ohio to test Vitol on a large fleet of trucks. This test will be valuable for comparative purposes since the available vehicles are sufficient in number to permit an almost identical control fleet to operate on Standard of Ohio's X-70 housebrand gasoline. At this plant also, the clear gasoline used as a base is approximately 58.0 octane number straight run and has been given the name of "Jetane." Each truck that is fueled is carefully checked by a full time observer and a record is made of the mileage, operating difficulties, maintenance, and so forth, of both fleets. This test has been going on about two months, and under ordinary load conditions the trucks are said to use somewhere between 12% and 15% of Vitol by volume of fuel.

It is interesting to note at this point that no reports from the region have been received indicating that Vitol was being manufactured by Standard of Ohio, or that the test was in progress. The demonstration and announcement, therefore, came as a complete surprise to the Ethyl representatives in the group. The vitol used at this point is slightly different in composition from that manufactured at the Canton Refining Company, the major difference being that Ray Potter (of Standard of Ohio) has been experimenting

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with certain types of inhibitors and is not using the "soluble oil" which is a part of the Canton Refining product.

We then adjourned to the TAPCO (Thompson Aircraft Products Company) plant where we were guests at a magnificent luncheon at which Arch Colwell was host. After luncheon the entire group, supplemented by additional members of the Thompson staff, adjourned to the board room and participated in an all-afternoon meeting during which many aspects of the marketing and manufacturing program for Vitol and Vita-Meters were discussed. The beginning of the meeting was devoted exclusively to the medical aspects of the problem, and Dr. Kehoe presented one of his famous talks on the subject making certain recommendations as to the proper conduct of any commercial distribution program. Mr. Van Hartesveldt explained Thompson's desires and stated quite frankly that his company was prepared to go to great lengths to prove to the industry the value of Vita-Meters. It is evident that they have put a good deal of money into the program and will make every effort to assure its eventual success. Among other things it was stated that Thompson has secured basic patents on a number of devices of this sort covering alcohol-water injection, and has attempted to cover all mixtures of water and alcohol in internal combustion engines. Dr. Kehoe counseled the Vita-Meter Corporation to go slowly in order to be sure that no serious health hazard became widespread. Parenthetically, Mr. Milton Roush, Chief Chemist, told the group that the standard Vitol mixture of 85% methanol and 15% water would hold 3 ccs per gallon of lead in solution indefinitely but that the mixture became unstable below 73% methanol, and that more aqueous solutions had a tendency to permit the lead to precipitate out. Dr. Kehoe advised against any effort to enter into a canning program or any other distribution program involving large numbers of small containers, and he also made some mention of the fact that methanol itself is a rather toxic alcohol which has a distinct tendency to cause blindness as the result of exposure.

The other Ethyl representatives and the du Pont representatives were asked questions with respect to the distribution, and all deferred to Dr. Kehoe's opinions stating that the distribution problems were undoubtedly severe and that their only interest was to be sure that the ends of safety were properly serviced.

Mr. Van Hartesveldt suggested, and Dr. Kehoe tentatively concurred, that he would add, if possible, ten additional fleets to his experimental program. The personnel engaged in the current tests, as well as those to be involved in the proposed additional tests, would be carefully checked by Dr. Kehoe on a systematic basis. Thompson authorized the Kettering Laboratory to make a beginning on a program that, it is estimated, will cost \$10,000 to determine as rapidly as possible the health hazards and medical problems inherent in this business. It is understood that this program will involve not only the regular examination of personnel engaged in the operation of fleets under test with Vita-Meters and in the mixing of Vitol, but also will make use of experiments with animals under controlled conditions in the laboratory.

During the course of the meeting Mr. Van Hartesveldt announced a program of service station sales to be conducted in collaboration with the Shell Oil Company at approximately 40 Shell outlets in and around Columbus, Ohio, to start tentatively in August. This program will embrace direct sales

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to the public, and it is Thompson's plan to make the installation of their Vita-Meters through their registered dealers in that area and, at the same time, to time the cars as nearly as possible to optimum spark advance and to do such minor tuning as may be required to put the engine in first class shape. The Vita-Meter tank, which holds five quarts of Vitol, will be installed and the Shell stations will be furnished with sufficient supplies of Vitol to service the installations. Mr. Van Hartesveldt pointed out that they expected to pursue this program regardless of the decision on the inclusion of lead in Vitol, since the program would work with or without lead, the only difference being the relative volume of Vitol to total fuel.

It is the writer's opinion that regardless of the economic aspects of the problem, which certainly should be studied completely, the Thompson Vita-Meter Corporation will succeed in arousing widespread interest. It seems likely that the immediate prospects will be tests on commercial fleets where the control and refueling problem is comparatively simple. This alone will keep everyone concerned pretty busy for a long time and permit the proper measure of control during the progress of Dr. Kehoe's experiments. Ray Potter expects to produce another paper at the SAE at French Lick in the near future, and Mr. Van Hartesveldt is leaving no stone unturned to gain publicity for his product. All of this, coupled with the fact that Thompson is well and favorably known throughout the oil and automotive industries -- and is backed by the capital which is reflected in annual sales currently averaging \$140,000,000 -- makes it perfectly certain that they are now in a position to play their hand completely out.

During the meeting, all of us in the Ethyl group were careful not to commit ourselves to any opinions particularly with respect to the company's attitude toward the Vita-Meter in general. The writer is aware, however, of the close friendships that exist among Arch Colwell, Mr. Crawford, Mr. Van Hartesveldt, and members of the Ethyl Corporation staff. Considering the fact that our competition is being given every opportunity along with ourselves to participate in this program, I do not believe that Thompson's plans should be treated cavalierly, nor that we should refuse to cooperate with them insofar as our policy will permit. In this connection, I should like to point out that Mr. Van Hartesveldt made a personal plea to me to obtain for him three of our demonstrating engines, either as a sale or as a loan. I have agreed to look into this for him and to tell him in the very near future whether we can make them available.

In closing the meeting, Mr. Van Hartesveldt made a very strong plea for the Ethyl Corporation and the du Pont company to join together in sponsoring Dr. Kehoe's medical investigation program and to agree jointly on the sponsorship of the Vita-Meter if Dr. Kehoe's results are favorable. It was pointed out that this probably could not be done. He then asked for separate letters from each of the two companies, and since there was no one present who could speak for either management, Mr. Sabina and the writer agreed to present the request to the appropriate people at respective headquarters. It is my suggestion that Ethyl Corporation write a letter couched in very general and noncommittal terms stating, in essence, that any decisions in connection with public health and safety issued by the Kettering Laboratory would more or less

automatically be approved by Ethyl, since Kettering is also its official adviser on matters of this kind. It might also be hinted that Ethyl is presently supplying, and will continue to supply, material assistance to the program, since the Corporation is designing mixing facilities for Vitol at at least two refineries and several laboratories and is providing engineering consultation service both in the experimental area and in its Detroit laboratories.

The Thompson Vita-Meter people would welcome anything that the Ethyl Corporation cares to do which would lend its name, and therefore prestige, to Thompson's program. It would also appreciate the offer by Ethyl of at least a token financial contribution to the medical investigation, merely so that it could be stated subsequently that the investigation was participated in by this company. It may well be that this gadget, like many before it, will die aborning, but most of its predecessors have not been backed by capital of the Thompson magnitude or by people of the Thompson caliber. It is the writer's opinion that we have a situation to deal with which will grow considerably larger before it dies, and it may remain with us for a long time.

In closing this report, I wish to refer to my memorandum of April 19th addressed to Messrs. Kaley and Frey, and in particular to the second paragraph thereof. I believe that this problem must be kept before us while this project remains current.

EOJ/AL

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