CONFIDENTIAL
Under Secrecy Agreement
with California Research

CONTACT REPORT

Via Telephone - February 10, 1959

People in Conference:

J. L. Cooley, California Research Corporation
J. R. MacGregor, " " "
H. J. Gibson, Ethyl Corporation

Subject: More Volatile Lead Compounds

This call was made by the writer to bring to the attention of California Research a number of items which were believed to be of interest to them. Discussion first centered about reports from our Baton Rouge people which indicated that the present standard lead-in-air analyzer was not reliable when it was used to determine lead-in-air resulting from tetramethyllead. The instructions for the field kit specify that 4 to 6 minutes should be used to take a four cubic foot sample of air (a flow rate of 0.7 + 1.0 cu.ft/min.). Baton Rouge had found it necessary to reduce the sampling rate to as little as 0.03 cubic feet per minute in order to recover as much as 80% of the tetramethyllead in the air. While the California report received on February 9 had indicated that California probably had recognized this problem and had solved it, we felt that we should point out to them that extreme care must be exercised in using the equipment in their studies of lead-in-air. The conversation brought out the fact that California had indeed recognized the potential problem in using the field kit for TML rather than TEL. They had tried a second scrubber in series and had found that it accumulated substantially no lead from TML and that the first scrubber gave excellent results on known samples. Actually, they had had trouble in getting accurate readings on air containing TEL vapor rather than TML vapor. They had found that if they allowed the solution containing the TEL vapor to age they obtained correct lead-in-air readings. In order to speed up the process, they had standardized on the use of a solution temperature of 120 F instead of the recommended 80 F. When they did this, they found that both TEL and TML readings were substantially correct on known samples.

Since this experience seems to be diametrically opposite to that of Baton Rouge, it was suggested that Dr. Rue and/or Dr. Griffing contact Dr. Baruch at the Richmond Laboratories directly to discuss details of the analytical procedures involved. It is assumed that this discussion will be covered by a separate Contact Report.

Needless to say, the California people were interested in our experience, and most anxious that everything be done to assure that lead-in-air

CONTACT REPORT

readings obtained during their experimental program were as accurate as possible. I agreed to keep them informed of all developments in this area.

Since the last cost figures given to them indicated that fluids containing MA-750 mix would cost 30% more than TEL on a weight-of-lead basis, and that TML would cost 35% more than TEL if we could make it, it was deemed advisable to give them the latest figures supplied by Dr. McKim to Mr. Scales. The California people were interested in the fact that we now felt that we could make TML without serious problems, and that our cost would be 25% plus or minus 5% over TEL for an equivalent weight of lead. I told the California people that the cost of MA-750 would be expected to be approximately 120% of that of TEL, and of MA-500 approximately 115% of TEL. I further told them that we had approximately 16 men working on this project, and that we would not care to continue this level of effort if it had already been decided that we would not have an opportunity to participate in the business if it should develop. Mr. Cooley said they had no commitment of any sort, written or unwritten, which would commit California to give one supplier all of the TML business. He went on to say that he saw no reason why the availability of TML should in any way change the relationship which now exists between the California Companies and their two suppliers of antiknock compounds.

I asked Mr. Cooley whether having a half a pound of toluene per pound of TML in fluid would cause them undue problems. He said that they had already considered this since they had been advised that a TML fluid might contain as much as 50% toluene. They saw no particular objection to this, although it would mean that the California operating companies would have to handle one additional tank car for every three or four received. (It appears that the 50% toluene figure probably was given them by DuPont since we have not, to the best of our knowledge, discussed toluene with them previous to this call.)

I reminded Mr. MacGregor that when he first came to Detroit to discuss TML with us, we had told him and Messrs. Craise and Batchelder that we had been discussing more volatile lead antiknock compounds with two other companies over a considerable period of time. Mr. MacGregor agreed that this was the case. I then told them that at the request of one of these companies we had recently held a meeting which was similar to that which Messrs. Scales, Gibson and Dr. Kehoe held with the California people in January. Mr. Cooley was told that we felt it better to tell them that this had happened than to run the risk of having it leak back in one fashion or another to California Research. I told Mr. Cooley that nothing that had been said or done in the meeting with the second company could, we felt, be construed in any way a violation of our secrecy agreement with them. After a brief pause Mr. Cooley asked whether we had received from the second company a reasonable amount of antiknock

CONTACT REPORT

performance data. I told him that I felt that the data received from the second company and from California Research had been roughly comparable in quantity. His only other comment was that he was sorry to know that they had competition, but that he was pleased that we had taken this straightforward manner in letting them know that we had discussed more volatile lead antiknocks with another company.

Messrs. Cooley and MacGregor were not told that the second company was presently interested in the use of TML outside the United States. (If they recall our conversations in September when the subject was first raised by California Research, they will probably know that the second company is interested in foreign marketing.) It appears that everything is moving along quite nicely in our relationship with California on this matter. At the moment it would appear that there is nothing remaining to do that is urgent other than to get our lead-in-air analytical methods straightened out and to keep them informed in this area.

Mr. Cooley raised the question as to what delivery date went along with our revised price estimate. I told him that we were estimating that we could be in commercial production of TML on January 1, 1960, if by May 1 of this year we had approval for its use. To be more general, we believe we could provide TML in commercial quantities in eight or nine months after we do have approval of its use. This was a matter of considerable interest to Messrs. Cooley and MacGregor, and Mr. Cooley asked that I put it in a letter of confirmation, which has been done.

Harold J. Gibson

HJG/dl

Copies to:
S. Blitzer
D. M. Guy
H. E. Hesselberg
D. A. Hirschler
R. V. Kerley
W. G. Lovell
W. B. Ligett
R. K. Scales
R. A. Kehoe
G. F. Kirby
P. A. McKim
S. O. Rue
P. Weimer
J. Koehnle
Gil Way