Copy: 10-1-45
FTL:MW

Mr. Tompkins-C...

XXXXXXXXXXXXX St. Louis, Mo.

8/30/45

Anniston, Ala. Your memo 8/7/45

Mr. F. T. Lense RESISTIVITY ON AROCLORS

The following is in answer to your memorandum of August 7 which due to the strike at Plant B was impounded in the plant and did not come to my attention until just today. I am very sorry for the tardiness of our reply, and hope that our answer will, even at this late date, be of some value to you.

We do not have at present, nor to the best of my knowledge have we ever had any of the standard General Electric reference oil that you speak of.

As to the procedure we employ in checking the instrument and cells, I am attaching copies of our methods for determining dielectric constant and resistivity which I believe will be of value if you do not already have them. I am including the method on dielectric constant as reference is made to it in the method for resistivity.

In order to check the instrument (a General Radio Company Megohmeter) we purchased a few years ago a number of standard resistors. We boxed these such that they could be added in series in groups of two to cover the range of the instrument. They were of a fairly good quality, though not the best obtainable, and we got them from one of the local radio and electric supply stores. We felt that we could not read the instrument closely enough to warrant buying the very best grade, though at the same time we did get something better than just the poorest. With this apparatus we believe that we can check the instrument satisfactorily and assure ourselves that nothing is amiss in that respect.

In addition we check or redetermine the cell constant frequently, as indicated in the methods. A newly determined value we find changes very little (probably only within the accuracy of the determination) for a given cell, leads, etc.

We do not feel that the resistivity measurement is susceptible to particularly close checking and generally the best we hope to do is to get results of the proper order of magnitude. We do therefore, on occasion, particularly when a new or newly plated cell is put into service redetermine the resistivity on a sample previously analyzed. In so doing we believe that we will prevent any gross errors from creeping into the determination.

I hope that the above will be helpful, and if we can give any further information, please call on us.

DSW 331116

Wm. E. Ault

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