Riverbank Laboratories
Geneva, Ill.

Department of Ciphers

August 31, 1919.

My dear General Squier:

We have just received the following telegram of Aug. 30th:

> "Re rel date. Our largest station sends an average of thirty to forty messages averaging forty words each in one day. Stop. Do you desire one hundred messages, including three actual day's work sent by one station but enciphered by one set of key tapes or do you prefer all messages enciphered in same key tapes sent by ~~one~~ all stations in one day, which should give total of more than one hundred messages?"

We feel that there would be no purpose in solving messages in a set of keys which are in use for a period greater than that permitted in actual service. Our understanding as given by Col. Mauborgne, with regard to the number of messages sent by a station was that a station which sent only forty or fifty messages a day was a very inactive one. Col. Mauborgne cited the Paris station as being a busy one and that as many as one or two thousand messages might be sent in a single day from such a station. This might, of course, represent the extreme of active operations, even during war time.

Our idea, for the purpose of obtaining a more intimate knowledge of the possibilities of the situation, would be to have presented the most favorable case, namely, that in which it is presumed that the machines are being used in war time, when the traffic is very heavy. We feel therefore, that our request, as contained in our telegram was a modest one and was moreover, strictly within the limits of the promise of Col. Mauborgne, to the effect that we could have as many messages and as many cycles as we should request. To our mind, if a very active station sends out one thousand or two thousand messages a day then an average station would surely send out one hundred messages a day.

However, since you have presented alternate propositions and since, as we have stated above, there would be no purpose in our working with the first, we must accept the second, namely, "all messages enciphered in same key tapes sent by all stations in one day." This, as you say, would give a total of more than one hundred messages, and we will therefore look for about one hundred fifty messages of representative length and text.

Regardless of this test, we should like to have Col. Mauborgne's opinion on the theoretical aspects of the solution, as elucidated in Addendum I to the original explanation. Despite the fact that no actual solutions of test problems were presented to him, Col. Mauborgne had no hesitancy whatever in admitting that the method of solution as outlined to him in conference was perfectly feasible. The explanation contained in the aforementioned addendum shows that the principles of solution which applied to that method of using the machine which he claimed was not the method used by the Signal Corps also applied to the method as outlined in his pencil memorandum. If Col. Mauborgne does not agree in this, it would seem incumbent on him to show why they do not apply. This, to our mind,

would be the real spirit of co-operation, rather than a challenge to prove our claims by solving a series of messages, which may involve a considerable expenditure of time, labor and money.

However, since your idea is that a practical demonstration is more valuable than a theoretical discussion in this case, we shall endeavor to do our best with the test to be submitted.

Sincerely yours,

[signature]