

South Dakota State School of Mines  
RAPID CITY, S. D.  
DEPARTMENT OF ELECTRICAL ENGINEERING

March 23, 1937.

Mr. J. W. Brauner,  
17 E. Spring St.,  
Williamsville, N. Y.,

Dear Mr. Brauner:

Your report on reception of W C A T for Tues., March 9th has been on my desk for several days, but I have neglected to answer. We are glad to hear from you again, as you give such a complete report.

Your reception is verified and we thank you very much for sending in such a careful report. It is a pleasure to receive such a full report and very few we receive are of that type.

We have changed things around some since we last heard from you. We are using the same transmitter with the same power, but have it in different quarters in an entirely new setup of studios, antennas, ground and so forth. Last fall we installed a 205 foot vertical steel radiator. Our transmitter is connected to this tower thru a coupling unit at the end of a 600 foot concentric transmission line. Two-thirds of the transmission line is under ground, the remainder in a building. The ground consists of 100 radials of No. 8 bare copper, each 200 feet long and buried about 16". They come in to a central ring at the base of the tower. The tower is on a knoll about 1,000 feet from, and the base about 100 feet above, a small stream. We have worried a little about the effectiveness of such a ground system in this dry country, but are getting 1.8 amps into the antenna, which is about all we can expect.

Our previous antenna was a 6 wire cage 100 feet long suspended from an 80 foot pole at one end and supported by the roof of a building (50 or 60) feet above the ground at the other. There were buildings on both sides of the cage, although it was some feet above the roofs of each. Our present setup is much more effective and all reports indicate a greatly increased range. People 100 miles away are getting us consistently in the day time, but could only pick us up once in awhile before we made the improvements.

Thanking you for your report and hoping to hear from you again, I am

Yours very truly

*E. E. Clark*

E. E. Clark  
Assoc. Prof. of E. E. and  
Operator W C A T.