14th May 1958
General Delivery
Wailuku, Maui, Hawaii

Dr. E. R. Hope
Defense Research Board
Ottawa, Canada

Dear Dr. Hope:

Enclosed are a few reprints in return for the many you have sent to me. Presently I am organizing my old data taken from the top of Haleakala during 1954 and making a few more observations for comparative purposes. When this has been completed and the results sent to the publishers, I expect to spend a year or more in West Virginia. Starting about August, my address will be

Grote Reber
National Radio Astronomy Observatory
P.O. Box 2
Green Bank, West Virginia, U.S.A.

Part of my time there will be spent building new and better equipment for future long wave observations when the present large solar activity has died down.

After sending "Between the Atmospherics" to the printers, I made more exact observations of the direction of arrival of the 143 kc, energy. It came from 36 degrees north of the zenith, both by day and by night. This angle is nearly the same as at 520 kc. The geomagnetic latitude of Hobart is 56 degrees, so the whole thing seems to fit together.

Please have my address changed in accordance with the above for such future literature as comes my way.

Very truly yours,

IRE Jan 58
Aust Met Mag Sept 57
JGR June & Dec 54, Mar & June 56, Mar 58
Nature 8 Jan 55

Grote Reber

There is one further matter which I notice has been passed over and should be mentioned. On the order of 30 to 40 nights, usually in summer at 520kc, the shutter remained in a partially open condition most of the early morning hours. Starting about 15 or 20 minutes before sunrise, there would be a small rise in the trace giving an increase of from ten percent to twice the immediately previous level depending upon the condition of the shutter. The rise would go thru a maximum very close to sunrise and then die out to day time level a half hour later. This little sunrise bump was quite common on records taken with a partially open shutter.

I deduce that the phenomenon is caused by a depression in the outer atmosphere at the sunrise edge of the earth where the rotational velocity cancels some of the velocity of the solar particles. The depression could well extend for an hour or more after sunrise but could not be observed because of the rapid increase in D region absorption. Nothing like this bump was ever found at sunset. The bump could only be seen on quiet nights when fluctuations were absent. Much more remains to be done.

G.R.