

# The “Telephone Pole Farm”- A Chester Icon

## Bell Laboratory Chester Outdoor Research Lab

By Edward Ng



Arguably, the two most iconic visual highlights of Chester are Larison’s Turkey Farm restaurant and the “telephone pole farm” on North Road. The history of the Turkey Farm is well documented in the CHS book [A Scrapbook of History: Chester, New Jersey](#) and on the CHS website<sup>1</sup>. The Scrapbook gives an account of the “pole farm” and this article adds to the story. As it turns out, there are many fascinating stories of the “pole farm” and beyond: underground oceans, hillside bunkers and tunnels, land based ships, man made lightening, sea plows, waveguides, a fire pond, and many more. This site was the outdoor

laboratory for one of the world’s most famous and successful corporate research units, AT&T’s Bell Labs.

Our story starts in 1925 when Bell Telephone Laboratories was created. In 1928 it rented 15 acres of farmland in Chester for outdoor testing, but this proved to be inadequate for their purposes and 85 additional acres of farmland were purchased in early spring of 1930. One of the main reasons the Field Laboratory was established in Chester was Seward’s Hill. With an elevation of 950 feet, it is one of the highest points in Morris County. More importantly for outdoor testing, it provides many types of topography and harsh weather such as blazing sunshine, high winds, driving rain, sleet, and icing. The property was large enough to encompass mile-long runs of cables on poles. It was also not far from Bell Lab’s main office in Murray Hill<sup>2</sup>.

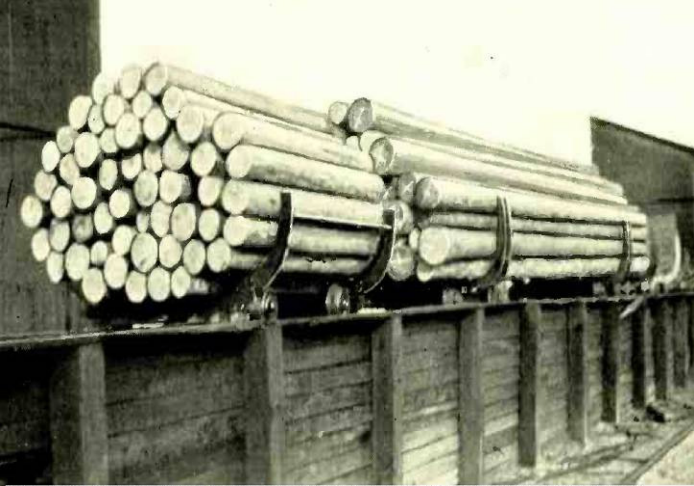


Seward’s Hill was part of one of the largest landholdings in Chester, first purchased by Obadiah Seward in 1740. Obadiah was the great-great grandfather of William H. Seward, best known as Lincoln’s Secretary of State, Governor and Senator from New York. He was the prime mover for the purchase of Alaska. Most of the land remained in the Seward family until 1958.

***The Chester Historical Society has started a major project to assemble a history of Bell Labs activities at the Chester outdoor laboratory. In our March 2013 Newsletter, we started what we hope will be a series of articles with the premier story of “The Fantastic”. This story about the “telephone pole farm” is the second installment in the series. Please contact us if you have information you would like to share about the Chester outdoor laboratory. We offer our grateful thanks to Loretta Keggan, Dave Gibson, Dan Pope and all other past Bell Labs Chester alumnae for helping us get started (and keep us going). Hearty thanks go to P. Fassbender, C. Hensley, and Telephone Collectors International for their help.***

<sup>1</sup> <http://historicchesternj.com/newsitems/larisonsturkeyfarm.html>

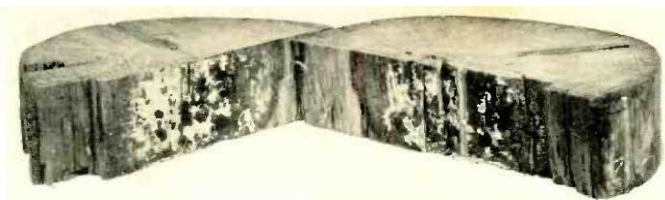
<sup>2</sup> Watling, R.G. in Field Laboratory for Outside-Plant Studies, Bell Laboratories Record. 1931 July. Pages 529-534.



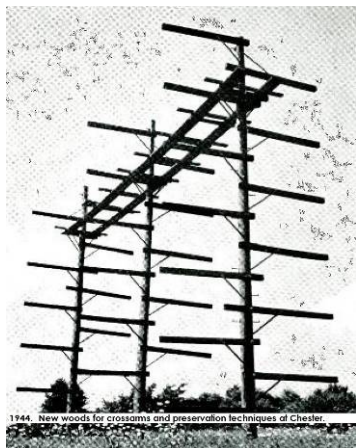
1932. Test pole segments are rolled into the treating cylinder where they will be infused with creosote.

At the beginning of the 20<sup>th</sup> century, poles were made from trees which were naturally durable and resistant to fungal and insect damage. However, economics necessitated the use of trees which were not naturally resistant, but could be made so using chemical treatments. Tests were needed to determine the best treatments and how long they would last. Bell Labs established climatically different test sites in Chester, NJ, Gulfport, MS, and Limon, CO. Creosote was the preservative of choice and after soaking eight foot pole sections

at a central location, they were analyzed for creosote penetration, and then samples sent to the three test sites.



1932. Test section showing white fungal growth within the wood.



Poles were sunk two feet into the ground and then revisited annually to record their condition and note damage. Periodically cores were taken or entire poles removed to determine the condition of the interior of the posts and how much creosote remained. Shown above is a diseased pole cross section with clearly defined white fungal mats<sup>3</sup>. Research at Chester also included other wood items such as crossarms<sup>4</sup> and wood wire reels.

The telephone pole test site has been an attraction for visitors to Chester since its inception<sup>5</sup> attracting scientists, engineers, and interested people from all over the world. Though we are more likely to see it driving by on North Road, rather than visiting in our hats and overcoats like these gentlemen, it is an enduring Chester landmark and welcomes us to Chester Township's Highlands Ridge Park.



1945. Visitors from other Bell Companies watch CQ Lumsden demonstrate ground line treatment of standing poles at Chester, NJ test site.



Chester Township Highlands Ridge Park - North Road - Telephone Pole Farm- Sep. 2014 Ed Ng

Research from Chester benefitted AT&T's operations nationwide. Given that there are now over 160 million wood poles, carrying electricity, cable TV, internet, and lighting in the USA<sup>6</sup>, I would conclude that the research from the Chester Outdoor Laboratory played an important role in developing and creating our modern infrastructure. ■

<sup>3</sup> Lumsden, G. Q. in Proving Grounds for Telephone Poles, Bell Lab Record, 1932, September. pages 9 -14

<sup>4</sup> Lumsden, C. Q. in New Woods for Crossarms and Their Preservation, in Bell Laboratory Record, 1944, October, pages 573-576.

<sup>5</sup> Anon. in Bell Laboratory Record, 1945, January. page 14.

<sup>6</sup> NPR What's up with Those Utility Poles. Jan. 2007 Christopher Joyce interview with Brian Hayes, author of Infrastructure.  
<http://www.npr.org/templates/story/story.php?storyId=6735420>