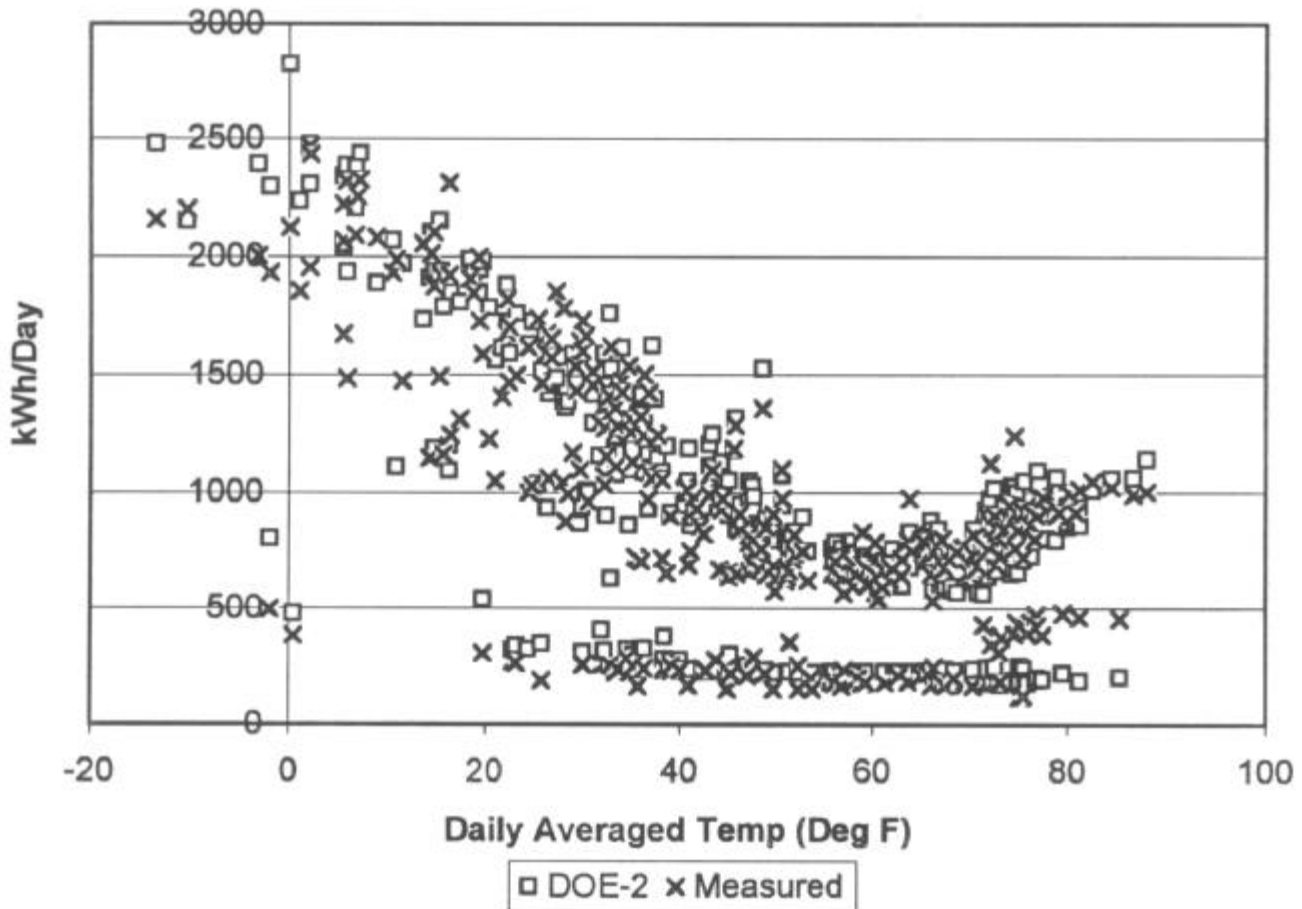


1996 Maxey School HVAC Electricity Consumption



Maxey Elementary School, located in Lincoln Nebraska, was built in 1995 and uses a ground loop heat pump system. The school floor areas is approximately 70,000 square feet and provides facilities for 500 students and 50 staff. Fifty four (54) heat pump units are distributed around the classroom and other areas. The units are provided fluid from a ground heat exchanger system using a common circulation loop through a well field. The loop uses a 22% propylene glycol solution and multiple pumps with a total peak flow of 575 gallons per minute equipped with variable frequency drives to allow variable flow through both the common loop and well field. The well field comprises of 120 vertical wells on a 12x10 rectangular grid pattern. Centerline distance between the adjacent wells is 20 ft with each well being 4.5 inches in diameter and 240 feet deep.

The DOE-2.1E results presented above are the work product, and supplied courtesy of:

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These results were obtained using JHirsch DOE-2.1E; the initial released version of this program incorporating the ground loop heat exchanger algorithms was designated as version 110 and the current version is 132. Improved versions of these GLHP system models are also available in DOE-2.2, PowerDOE, and other products.