



# Ken Field

Owner of Slate Belt Energy Services

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## Don't Blame the Heat Pump

This topic comes up every winter but it is worth addressing every winter. If you heat your home with a heat pump, or maybe I should say try to heat your home with one, you know that when it gets cold, your electric bills skyrocket. It is important to understand that a heat pump has inherent limitations and one of them is that they lose capacity when the outside air is below 47°. Well that sounds odd because it means the colder it gets, the less heat you get from them.

EXACTLY! From the design stage to installation, there are dozens of mistakes that are made in almost every installation. In our climate zone the capacity required for cooling is about half of the size required for heating. A typical heat pump only operates at one capacity and if it is sized correctly for cooling, it will be 50% undersized in winter. If it is sized for heating (which nobody ever does) it will be 100% oversized in summer. What is typically done is to size it somewhere in between. So if your home really needed 50,000 btus of heat, you will likely have a 36,000 btu heat pump. That means at 47° you will have 36,000 btus available. But you don't need that much heat until the outdoor temperature is about 10°. Here's the catch, at 10° a 36,000 btu heat pump generates only 17,300 btus. At this time you will realize that your system also has a backup electric heater. It is a little time bomb inserted into the fan unit. For a 36000 btu heat pump the backup heater is usually 15kw. That means it can produce over 51,000 btus and keep your house toasty warm. This unit is about the size of your toaster oven but it's like a toaster oven on steroids. Your toaster oven likely is rated at 1200 or 1500 watts but the backup heater in your heat pump is rated for 15,000 watts. Just ballparking numbers if electricity is 15 cents per kwh, that heater will cost you \$2.25 for every hour it is on. Obviously it cycles with a call from your room thermostat but in 24 hours it's not unusual for it to run for 6 or 8 hours total every day. That is around \$15/day. If you have leaky ducts or a poorly insulated home, it could easily be double that. Thirty days of \$15/day is \$450. Sound familiar?

My whole point is not to blame the heat pump. It doesn't belong anywhere near this far North for the lousy cold weather performance it provides.

**Ken Field is the owner of Slate Belt Energy and Field's Service, Inc. As a certified energy rater and contractor, he is qualified to assess every aspect of energy usage and prescribe solutions to save energy. He can be reached at 610-759-6306 or email Ken@FieldsService.com**

## Eagle Scout Jack Scherer from Troop 34 Project

By Michael Ortoski

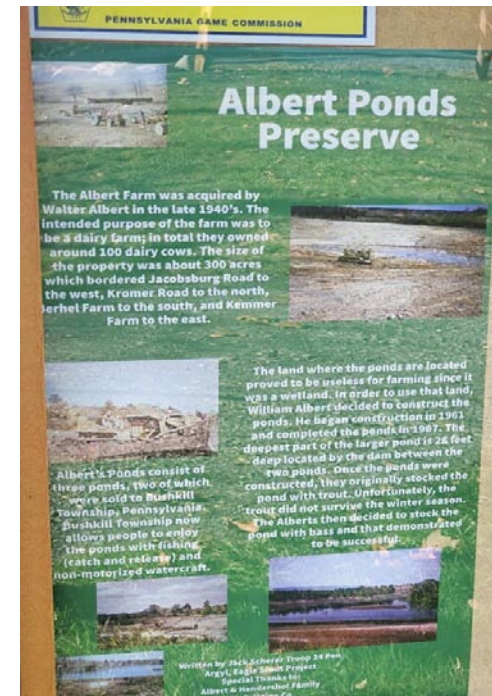
PEN ARGYL - Troop 34 Community Eagle Scout Project Jack Scherer from Troop 34 Pen Argyl, PA recently completed his Eagle Scout Project at Albert's Pond in Bushkill Township. Located on Albert Road between Old Sullivan Trail and Route 33, Albert Ponds property sits on 60 acres and includes two large ponds for fishing.

Through the dedicated leadership of assistant scoutmaster, Paul Frey, and the support of the Albert family, Jack created a conservation project for Bushkill Township at Albert Ponds. The project included the installation of six (6) benches, two (2) bat boxes, and ten (10) blue bird houses. Kerry Reider, Open Space Coordinator for Bushkill Township worked with Jack on the development and approval of the project. Jack fundraised and collected donations totaling more than \$1,000 to purchase materials for the project.

This past November, he completed the installation with the help of his family, Paul Frey, scouts of Troop 34 and Rob Hendershot. Rob, who is related to the family of Albert Ponds, was impressed with Jack's organization and leadership. Albert Ponds is a special place for Jack. He visits it often to enjoy the peaceful scenery and paddle around the pond on his kayak.

Jack wanted to improve the pond by enhancing and preserving the beautiful nature it offers the community. In addition to the benches, bat boxes and blue bird houses, Jack also installed a historical board, honoring the pond's history. Karen Hendershot, wife to Rob Hendershot, was very pleased with the historical pictures which show the pond's development.

Troop 34 is very proud of Jack's leadership and his ability to Lead by Example. If you know a boy who likes to learn and grow in leadership like this one, Boy Scout Troop 34 is looking for new scouts to join the fun. Simply email [troop34minsitrails@gmail.com](mailto:troop34minsitrails@gmail.com) for more information.



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