

## **Why should I pay extra money for the additional ground wire or a surge protector for my pump, when my well pump is already down in the aquifer (which is the best ground)?**

*The very fact that your pump is located in the aquifer is the reason surge protection it is so essential! The electrical code that requires the pump to be grounded makes perfect sense when understood in the context of power surges.*

*The wires that deliver power to your pump's motor get power from the local utility. If there is a power surge/spike, the high voltage in the spike will actually go through the power lines to your pump and then arc out through the motor insulation to the aquifer. This permanently damages your pump's motor!*

*To prevent this, the ground wire to the aquifer is used to connect to the electrical ground system of your electrical network and to a properly installed surge protector. When a power surge comes, the high voltage is diverted to the path of least resistance through the surge arrester. This path is directly to the aquifer through the ground wire instead of blowing apart the insulation in your pump's windings! This question highlights the fact that a properly installed \$100 surge arrester on your pump can save \$2000 or more to pull a pump and replace the motor!*