MINERAL BUILD-UP

<table>
<thead>
<tr>
<th>SYMPTOMS</th>
<th>Rumbling</th>
<th>Crackling</th>
<th>Popping</th>
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**CAUSE**

With the advent of high input and larger storage tanks in both commercial and residential heaters, deliming has become a necessity of modern maintenance. Lime (CaCO₃), is the most notable factor when discussing water hardness. Lime is present in every water system to some degree across the entire United States. Since lime is inversely soluble [the more you heat, the more lime comes out], higher usage, excessive hardness, and increased heating surface can lead to a high incidence of "limed-up" heaters.

Symptoms often include a popping of water trapped under lime deposits or the sizzling of water trapped next to elements, boiling it to steam.

**THE FIX**

Treatment of a "limed-up" heater is relatively simple. Since CaCO₃ is a base, the easiest way to dissolve it so it can be flushed from the heater is with an acid. The most commonly used is phosphoric acid at a food-grade level.

Two common treatments marketed by A.O. Smith are Mag-Erad® and Un-Lime®. Any well stocked plumbing supply house should have a deliming solution available.

The directions on the product should be followed explicitly.

**NOTES**

For additional information and instructions in deliming water heaters and boilers, please refer to the following pamphlets available from A.O. Smith:

- *Why? When & How: To Remove Water Scale from Tank Type Water Heaters*
- *The Mag-Erad® Method of Cleaning Gas Fired Water Heaters*
- *Up-N-Down™ Transfer Kit*
- *All About Deliming Coil Type Water Heaters*