

CLAIMS

1. A well material removal apparatus for removing material at a well, the well material removal apparatus comprising a heating device for heating a target material, the heating device comprising a heating member configured to progressively jet heat along a helical path to heat the target material for removal.
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2. The well material removal apparatus of claim 1, wherein the heating member comprises a helical heating member; and optionally wherein the helical heating member comprises a helical thermic lance.
3. The well material removal apparatus of claim 2 or 2, wherein the helical heating member comprises at least one or more of the following predetermined properties according to intended use: longitudinal separation between adjacent revolutions or turns; a heating member cross-section property/ies; helix pitch; helix diameter; heating member longitudinal length; helix angle.
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4. The well material removal apparatus of any preceding claim, wherein the heating member comprises an expandable heating member, the heating member being radially and/or longitudinally expandable.
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5. The well material removal apparatus of any preceding claim, wherein the heating member comprises an inlet for receiving oxidant, and the apparatus comprises one or more valves for controlling the supply of oxidant to the heating member.
6. The well material removal apparatus of any preceding claim, wherein the heating device comprises a central passage located radially inwards of the heating member, wherein the central passage comprises an enclosed hollow central member defining a bore configured for the transmission of signals and/or materials therethrough.
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7. The well material removal apparatus of any preceding claim, wherein the heating device comprises a plurality of heating members, wherein the heating members are arranged longitudinally coincident, with the heating members rotationally offset, such that the two or more heating members are arranged circumferentially around a plane perpendicular to the longitudinal axis.
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8. The well material removal apparatus of any preceding claim, wherein the well material removal apparatus comprises a plurality of heating devices, wherein the plurality of heating devices are spaced longitudinally and are selectively independently controllable.
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9. The well material removal apparatus of any preceding claim, wherein the apparatus is for downhole heating.
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10. A method of removing material at a well, the method comprising progressively jetting heat along a helical path to heat a target material for removal.