

Multilateral Applications on Geothermal Wells

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Abstract

Multi-lateral (MLT) wells have been increasingly used in recent years by different industries including oil and gas, water production and geothermal wells.

Drilling costs, induced seismicity, scaling and corrosion, emissions, and assessment of the inherent uncertainty associated with the reservoir properties for long-term sustainable provision of thermal energy are the major challenges of geothermal systems.

MLT systems provide operators with a low-cost and reliable solution for new/increased production rates while allowing savings up to 80% of top-down drilling costs, reduced equipment, and service requirements (wellheads, casings, cement, drilling fluids, waste management), reduced surface footprint (roads, well pads, pipelines) especially on environmentally sensitive areas, therefore reducing total emissions.

The following proposed system has the advantage of being a simple and economical MLT system using existing equipment to be installed either in OH or CH that allow producing from both drilled sections.

MillThru system created a Level 4 junction that provided full access to the lateral and the main bore.

Cased-hole Level 2 SRS system enabled production to flow from a new well, while preserving access to the original, nonproductive vertical wellbore.

Open Hole SRS system Cost effective method for Open Hole MLT applications; multiple laterals can be created from one datum point.