Revive production in your geothermal wells with industry-leading underreaming

High Expansion Underreamer

Scale buildup can spell trouble for a geothermal well's productivity. This scale, which forms when dissolved minerals precipitate out of the geothermal fluids, can accumulate on the wellbore, casing, or surface equipment, leading to a significant drop in well efficiency.

The Baker Hughes High Expansion Underreamer maximizes well productivity and efficiency through reliable, precise scale removal and borehole enlargement. Featuring a 61% expansion ratio and unmatched underreaming range of 8.5 in. to 13.5 in., the High Expansion Underreamer is a powerful cleaning solution for geothermal wells and other challenging wellbore environments.

The underreamer's durability and versatility provide several major performance benefits compared to other underreamer tools on the market.

RELIABLE PERFORMANCE IN THE MOST DEMANDING DOWNHOLE CONDITIONS

The High Expansion Underreamer's cutting structure is ideal for geothermal wells, with premium PDC cutters that reliably withstand hard, high-heat, and abrasive formations to deliver faster penetration rates. Rated to 5,000 psi and 450°F (230°C), the underreamer sets a new standard for borehole expansion across diverse applications beyond geothermal, including plug and abandonment (P&A), carbon capture and storage (CCUS), and reaming-while-drilling operations.

ENHANCED WELL PERFORMANCE AND LONGER EQUIPMENT LIFE

The High Expansion Underreamer's cutting arms extend farther than many tools to effectively clear scale buildup and obstructions, restoring the wellbore to its full diameter. Less scale obstructing the wellbore results in reduced friction and pressure drops and increased energy efficiency—all of which contribute to higher production rates and enhanced heat transfer.

The tool's superior scale removal also helps protect pumps, valves, and other downhole tools from scale deposits. As a result, equipment runs longer with less downtime and lower maintenance costs, resulting in smoother and more profitable operations.

EFFECTIVE SCALE MANAGEMENT AT LOWER OPEX

Unlike standard underreamers that require extended operating time and multiple passes to effectively clear scale

APPLICATIONS

- Geothermal wells
- Plug and abandonment operations
- Carbon capture utilization and storage
- Pilot drilling or reaming while drilling

BENEFITS

- Maximizes reservoir contact with a 61% expansion ratio that removes scale and increases well size for enhanced flow and heat transfer
- Operates reliably in conditions up to 5,000 psi differential and 450°F (230°C)
- Enhances rock-to-rock isolation for improved injection capacity, well integrity, cement bonding, and access to storage zones
- Improves wellbore stability and enables smoother casing/liner installation
- Seamlessly integrates with other technologies thanks to simple ball-drop activation

from the wellbore, the High Expansion Underreamer's premium cutting structure removes more scale in less time.

This improved efficiency translates to fewer interventions, lower rig time and equipment expenses, and minimal downtime. It also allows for more consistent production, making the high expansion underreamer a cost-effective choice for managing scale buildup.

For further efficiency improvements, Baker Hughes provides comprehensive support services, including expert tool deployment and specialized maintenance, to ensure optimal tool performance and effective scale removal across a range of challenging applications.

Contact your Baker Hughes representative to learn how the high expansion underreamer can help rejuvenate production in your high-temperature wells.

8.250-IN. HIGH EXPANSION UNDERREAMER

Passthrough casing size (in.)	9.625 or 10.750
Open hole (in.)	8.500 and 9.750"
Pull rating (lbs)	919,000
Connections	NC50 Box x Box
Tool OD (in.)	8.250 OD
Final gauge hole dia. (in.)	13.500 OD
Maximum differential pressure rating (psi)	5,000
Maximum temperature (°F)	450
Cutting structure	PDC

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