

# Geothermal Drilling

Harnessing the earth's heat into renewable,  
carbon free energy



Energy. Well engineered.

Providing Solutions for Transitioning Energy Markets  
HYDROCARBON | WELL ABANDONMENT | GEOTHERMAL | CCS



Not all wells are created equally. Geothermal wells have certain characteristics that require geothermal expertise and experience to achieve success. Parker Wellbore has drilled, operated, and managed geothermal wells for more than 40 years.

Geothermal energy is the most reliable source of the renewable energy sources. We have developed a strong understanding of the unique challenges faced in geothermal operations and have created customized rig solutions to meet even the toughest environmental requirements for some of the world's largest energy companies around the globe.

## Keys to Successful Geothermal Operations

- **Rig planning** and selection is critical to optimizing performance efficiency due to geothermal operating conditions.
- **Key drilling personnel** have Geothermal experience such as Driller, TP, and Rig Superintendent.
- **Specific drilling practices**, along with specific mitigation plans used just before & during TLC & PLC zones help reduce the frequency of stuck pipe.
- **Inspection criteria** with Geothermal wells is critical due to the drilling conditions. Frequent inspections and consistent monitoring of equipment performance and management of personnel is essential at all times.





- We have the ability to modify existing assets to the requirements of geothermal drilling, as well as, improving existing operations.
- Rig modifications include:
  - **Supplemental drilling fluid** cooling systems
  - **Design and implementation of rig safety** features unique to geothermal drilling
  - **Custom designed substructures** to accommodate large BOP stack-ups
  - **Soundproofing** installations
  - **Custom designed skidding systems** including pony subs for efficient well-to-well moves and precise placement of rig on pads with unique well configurations



Worldwide experience and hands on expertise, Parker Wellbore has drilled or provided Technical Services to:

## Indonesia

Provided Technical Services for over 40 years. Working on a joint venture with our partner, P.T. Dati, our results have come in under budget and in less time than expected.

## Philippines

Drilled a series of wells with two rigs in a multi-year geothermal development project for the Philippine National Oil Company.

## New Zealand

Drilled a series of wells on a geothermal project for Electricity Corporation of New Zealand and more than 20 wells for Mighty River Power at the Kawerau and Rotokawa geothermal projects.

## Colombia

Drilled the first geothermal well in the country for Geoenergia Andina S.A., in the mountain region near Manizales.

## Hawaiian & Ascension Islands

Drilled multiple geothermal wells on both islands.

## California

Drilled both onshore and offshore geothermal wells.

And the possibilities in the geothermal energy sector are only expanding. We project that geothermal will play an increasingly larger part of the European energy evolution.

## Supporting Indonesia Through Operational Discipline

Over the past 40 years in Indonesia, Parker Wellbore has provided operations and management services for P.T. DATI through a customized Technical Services Agreement, enabling them to benefit from Parker Wellbore's extensive drilling experience, methods, and API Certified Integrated Management System.

Throughout this collaboration DATI and Parker Wellbore have completed over 96 geothermal wells together, with

a focus on providing safe, reliable, and efficient operations. To achieve this, Parker Wellbore provided advanced technical services to DATI, helping carry out enhancements and customized rig solutions to meet the tough conditions of their drilling activities. We also shared our best practices, based on decades of experience, to support DATI with robust procedures and programs for training, HSE and preventative maintenance. The results speak for themselves.



**The energy transition is at the top of everyone's list. We also get under the surface of it!**

**Our commitment to the energy transition extends to assisting our customers through a combination of cost-effective solutions and operational excellence. Let the geothermal experts handle your next project.**



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