ALTITUDE ENERGY PARTNERS

CASE STUDY

OPTIMIZED DRILLING CAMPAIGN FOR MAJOR GEOTHERMAL OPERATOR IN UTAH

This geothermal drilling campaign faced several unique challenges. The project involved the development of a new enhanced geothermal system (EGS) utilizing unconventional drilling techniques. The primary goal was to successfully drill the curve and lateral through a granitic formation, that would enable effective heat production. However, the team encountered challenges due to limited field data, requiring careful planning and modeling of the bottom hole assembly (BHA) and bit design to mitigate risk. Additionally, budget constraints added pressure to assess the long-term sustainability and financial feasibility of the project.

OUR SOLUTION + RESULTS

Optimization and Planning

To address the challenges of this geothermal drilling campaign, Altitude Energy Partners (AEP) implemented an iterative drilling optimization process using our Service Execution Cycle to plan, execute, analyze, and continuously improve the project. We collaborated with other service providers to design a fit-for-purpose well construction solution, minimizing risks during the initial deployment.

Real-Time Monitoring and Adjustments

Throughout the operation, we closely monitored and optimized drilling parameters, successfully reducing drilling dysfunctions and safeguarding downhole components. AEP's directional drillers ensured precise execution by maintaining a consistent curve and lateral through accurate BHA design and careful management of drilling parameters, while closely monitoring the wellbore trajectory. By analyzing run hours, drilling practices, and equipment wear, our drilling team was able to refine the drilling program, significantly reducing non-productive time and lowering overall drilling costs.

Results and Impact

The results were remarkable, with the first pad alone saving 16 days. By completion of the final pad, the project demonstrated a 100% improvement in efficiency compared to the first horizontal drilled.