

A photograph of a tall geothermal drilling rig at sunset. The rig is illuminated with lights, and the sky is a mix of orange, yellow, and blue. The rig has a long vertical mast with various platforms and equipment. In the foreground, there are some industrial containers and structures.

# The Next Generation Geothermal Era

**DELIVERING 24/7 CARBON-FREE ENERGY**

**Elliot Howard | Drilling Manager**

*11 April 24*

# Agenda

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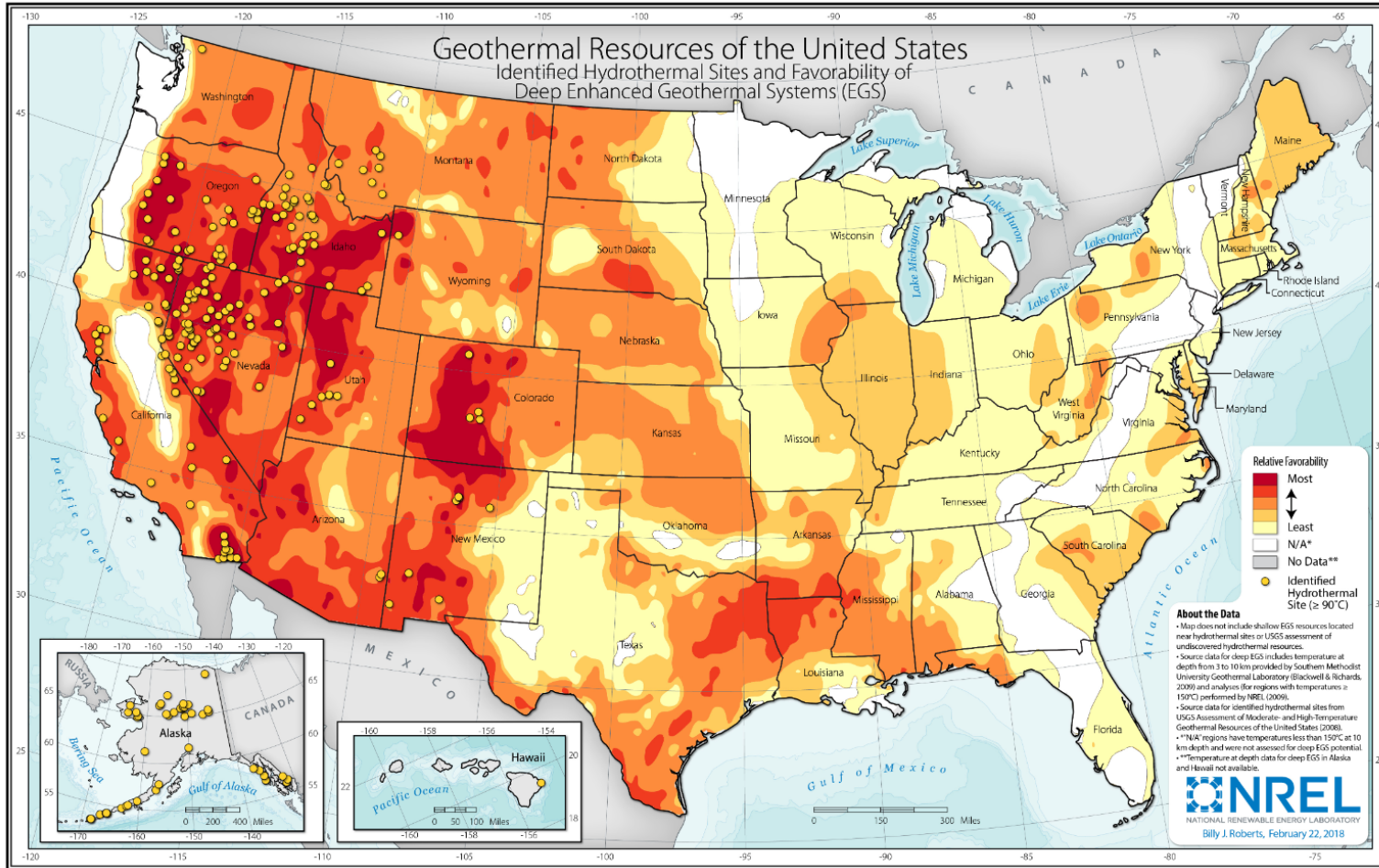
**EGS Overview**

**Fervo EGS Campaign – Drilling Results**

**Learning Curve Outcomes**

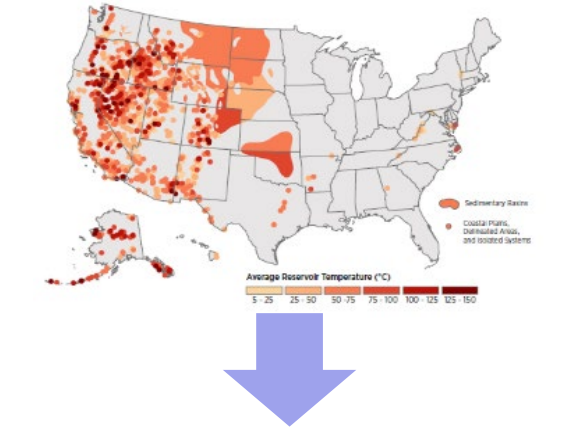
**Learning Curve Drivers**

# EGS Opportunity

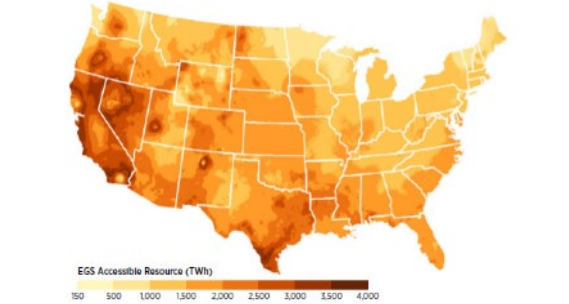


**Making Geothermal a Scalable Power Solution for the World<sup>1</sup>**

**Conventional Geothermal: 9,057MW**



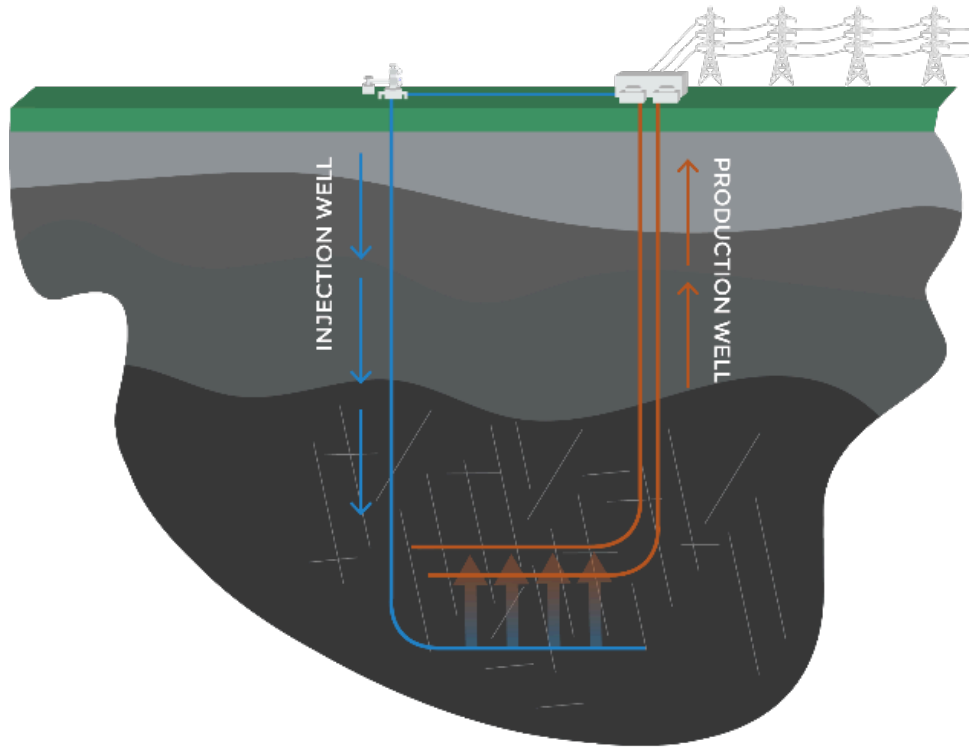
**Fervo Market: 250,000MW+**



# EGS Technology

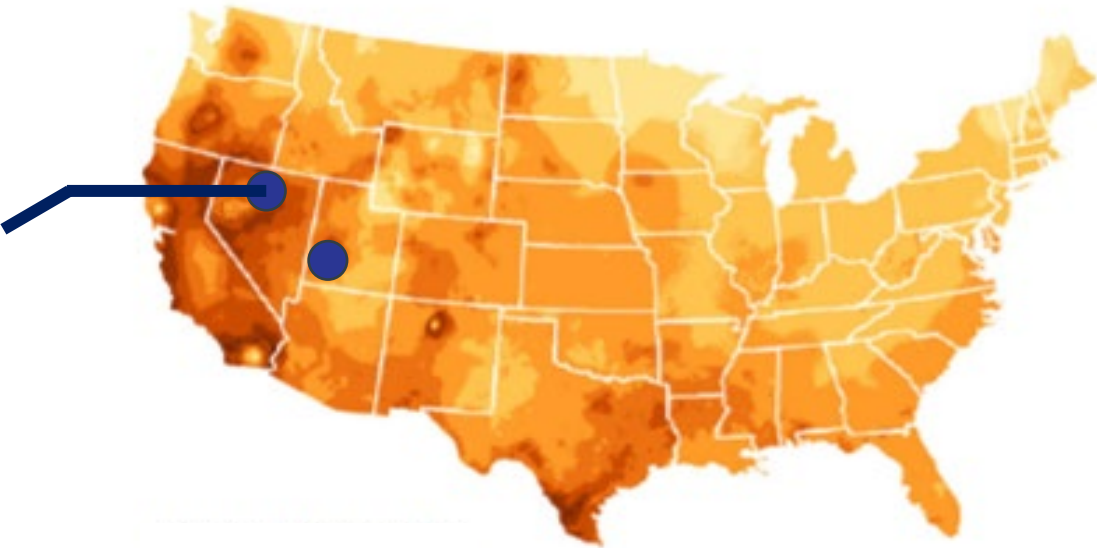
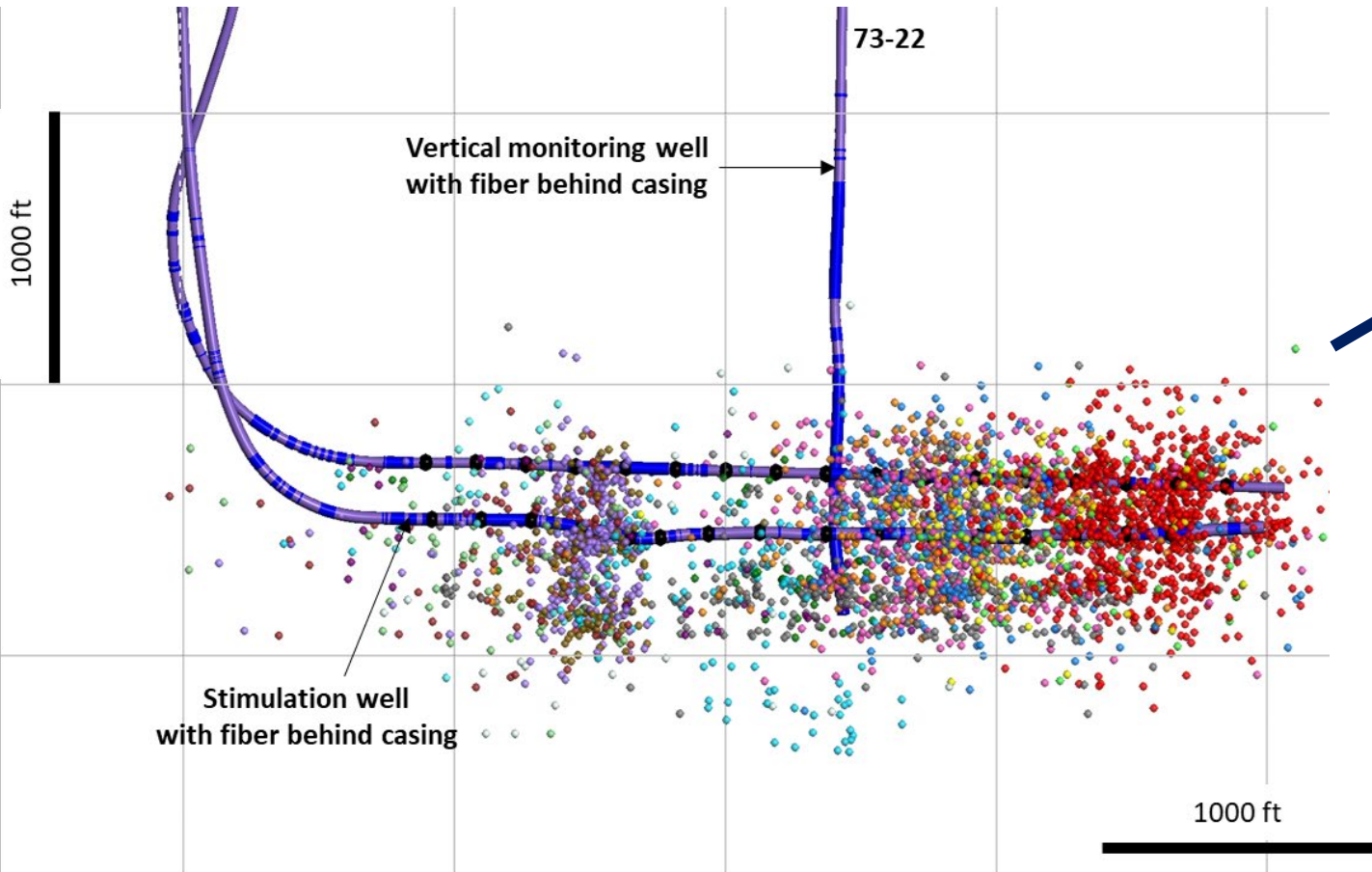


Fervo's approach to geothermal energy development relies on many of the same technologies that enabled the North American shale revolution, including:



- **Horizontal drilling**, which increases the contact area with the geothermal reservoir
- **Multistage completions** with extreme limited entry and proppant, which increases flow rates and heat transfer efficiency
- **Distributed fiber optics**, which enhances monitoring, characterization, and downhole flow control

# EGS Results



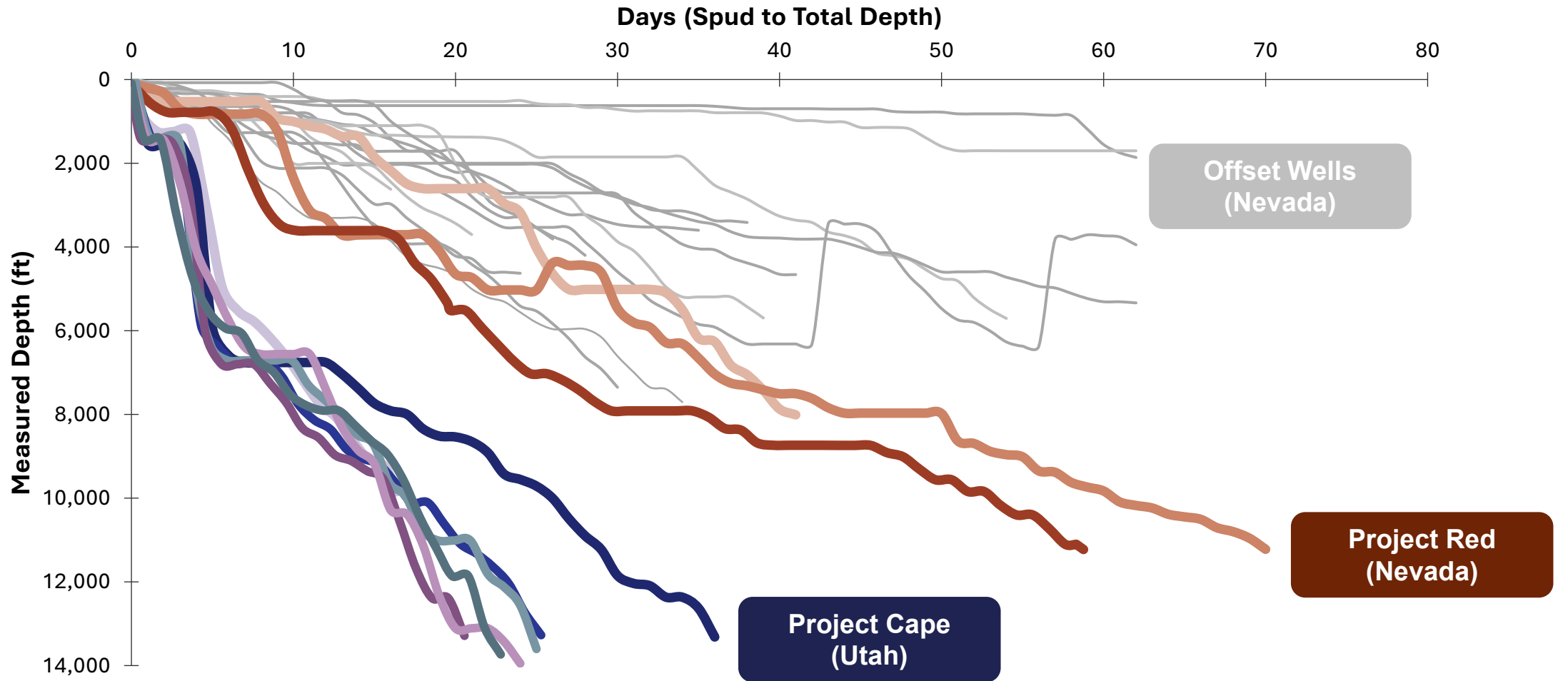


**Project Cape**

**Milford, UT**

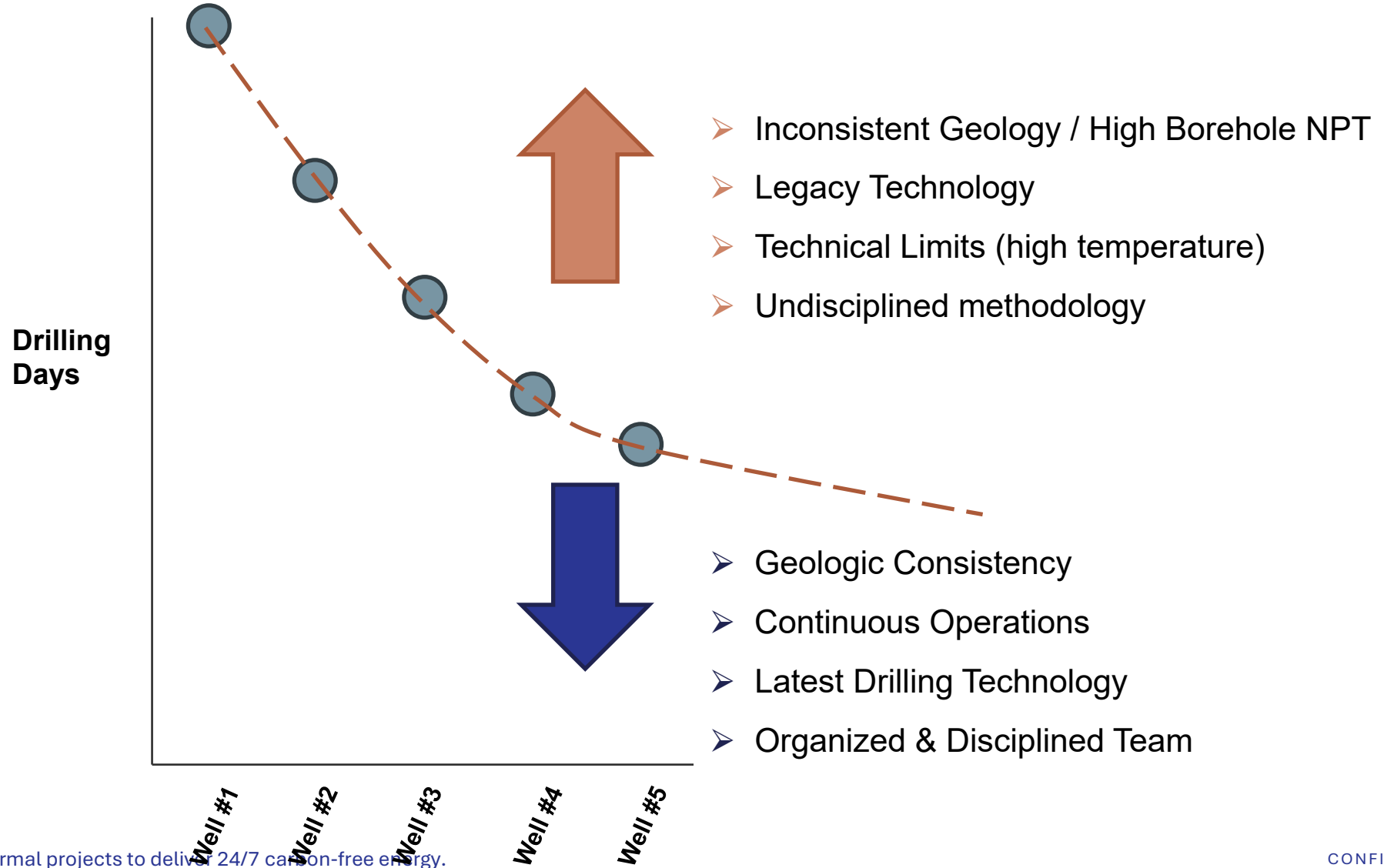


# Days vs Depth

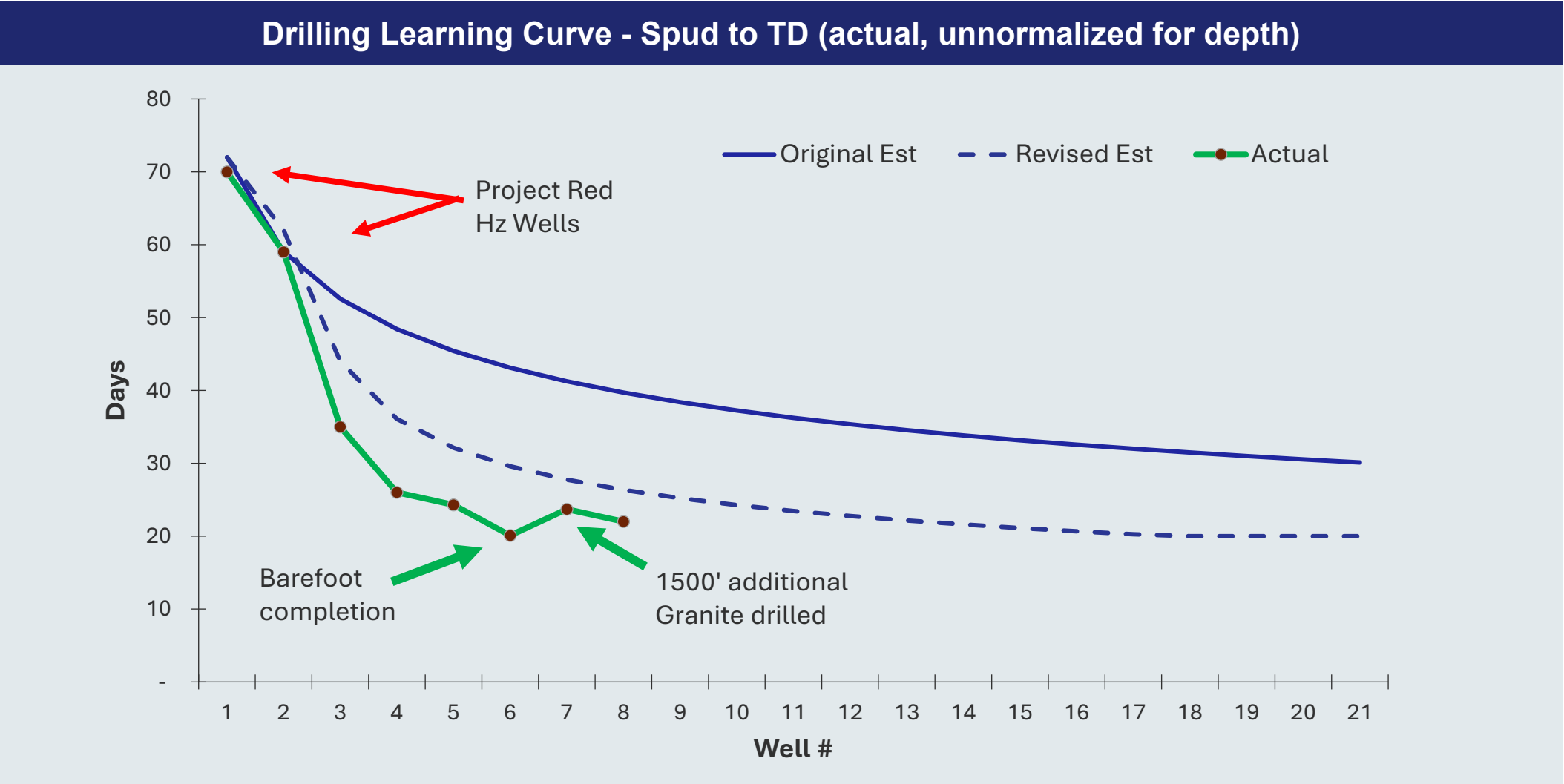




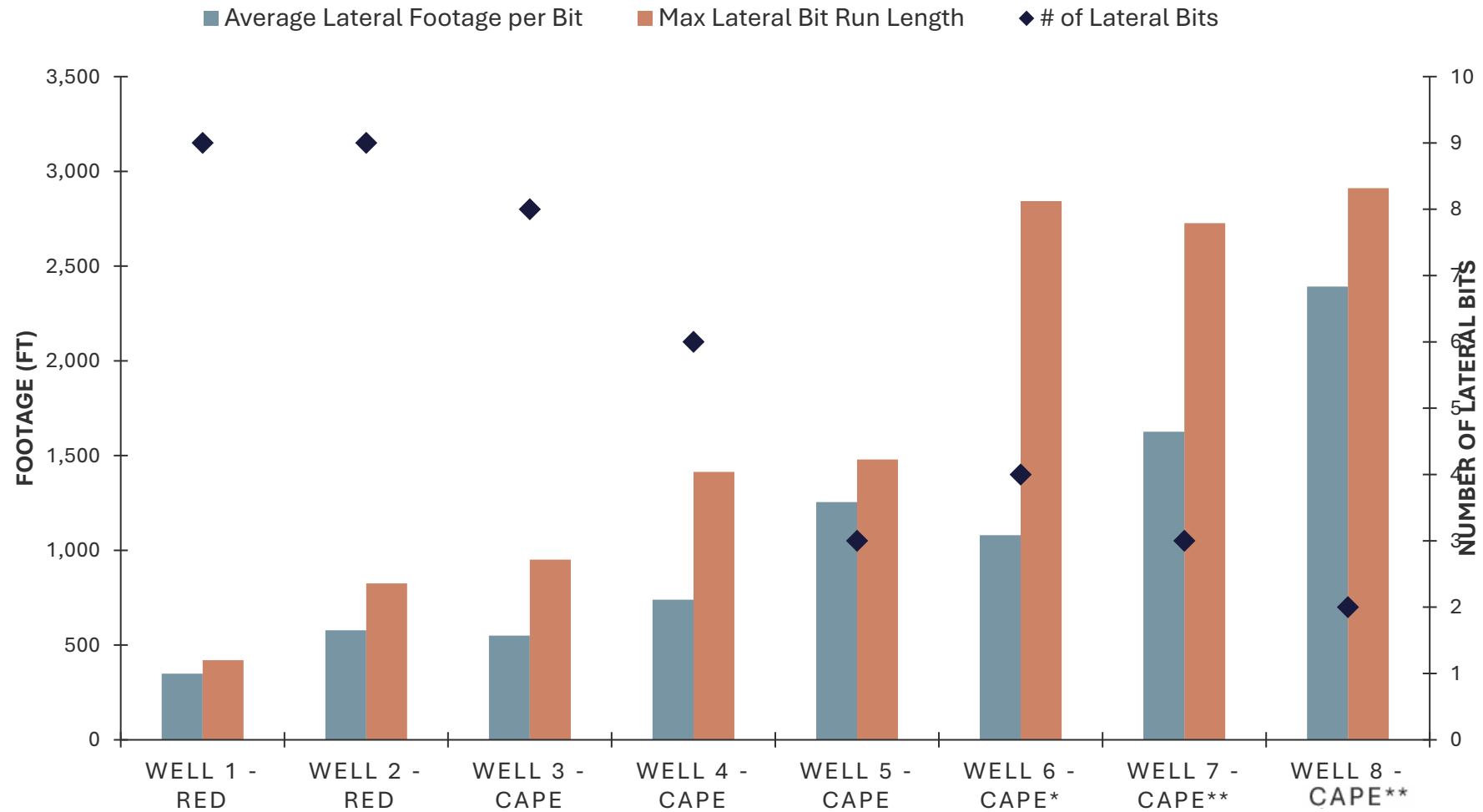
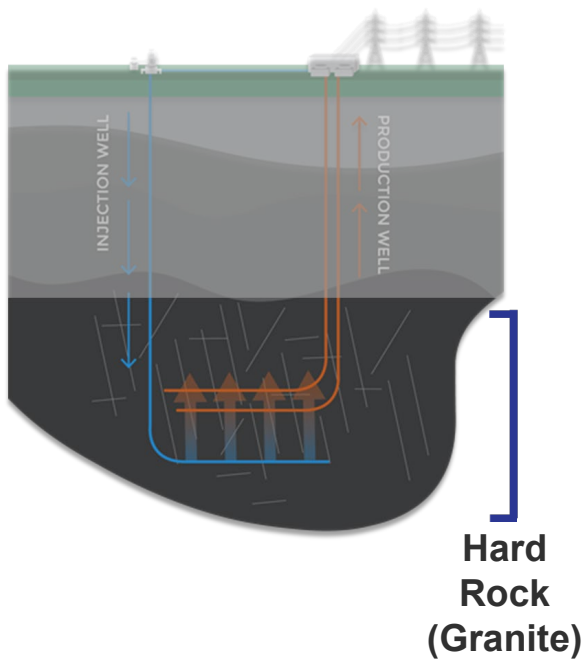
# Learning Curve: Theory



# Learning Curve: Fervo Results



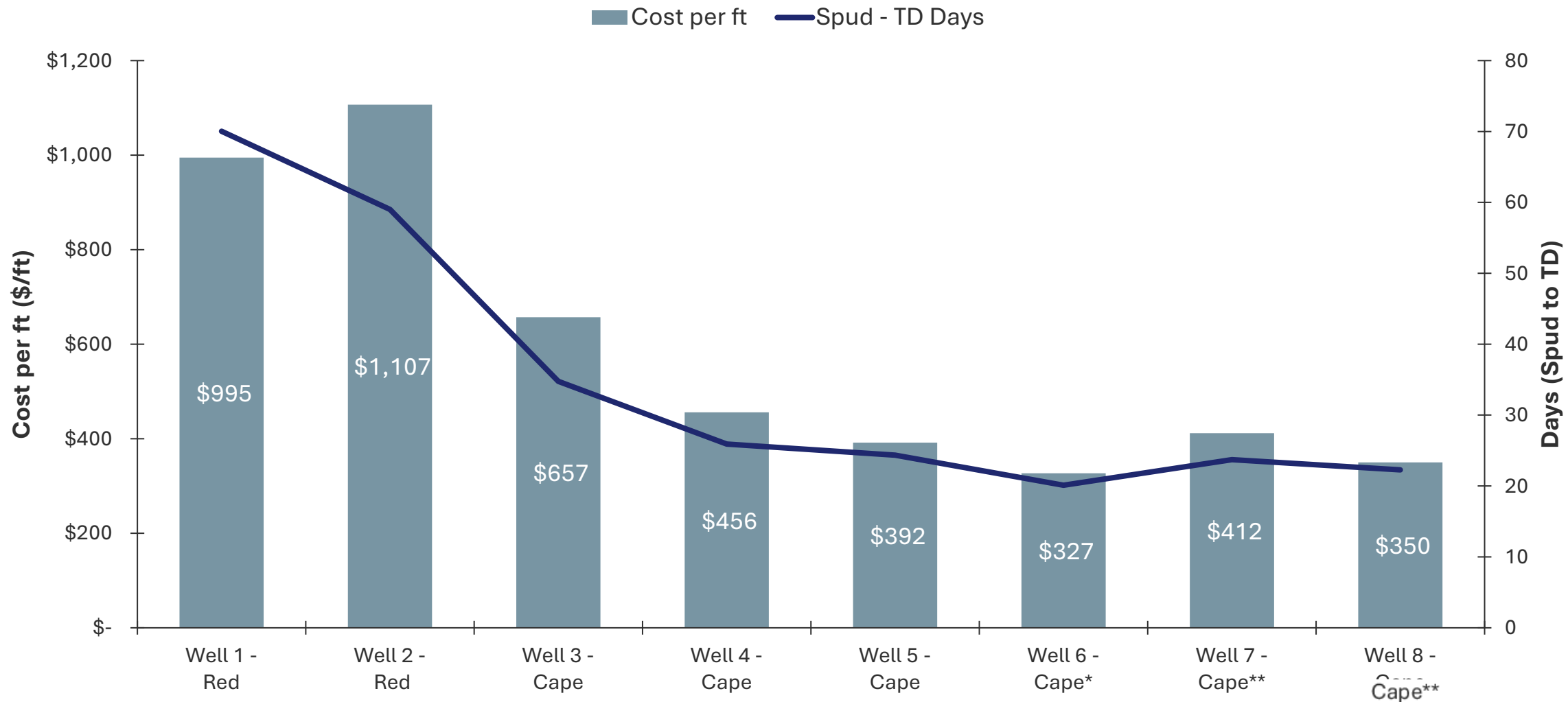
# Lateral Granite Performance



\*Well 6 – Cape represents a well with a barefoot completion design, with no production liner capital/installation costs incurred

\*\*Well 7 & 8 – Cape represents a well with 500 ft of additional 24 in. lateral and casing design optimization to yield a 0.5MW power increase per producer on the pad.

# Fervo EGS Time and Cost Performance



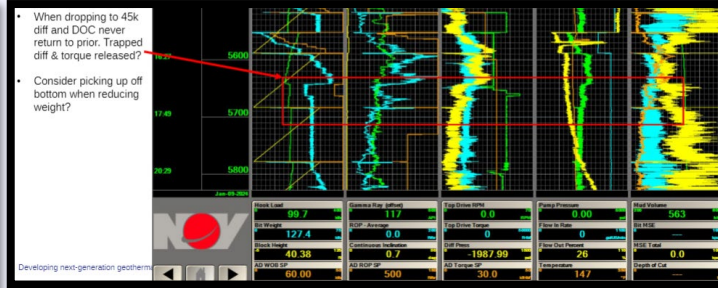
\*Well 6 – Cape represents a well with a barefoot completion design, with no production liner capital/installation costs incurred

\*\*Well 7,8 – Cape represents a well with 1500 ft of additional granite drilled, and casing design optimization to yield a 0.5MW power increase per producer on the pad.

# Learning Curve Drivers

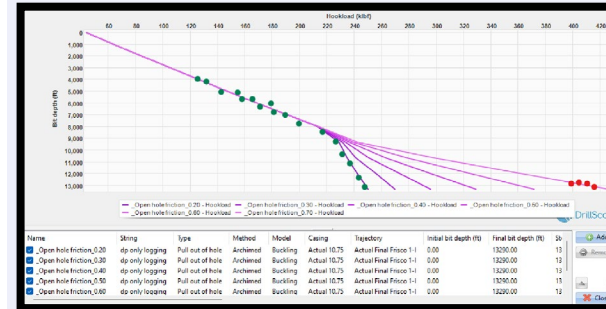


## Drilling BHA Design & Operations



- Physics-based drilling practices
- Root Cause Failure Analyses
- Limiter Redesign

## Technology Implementation



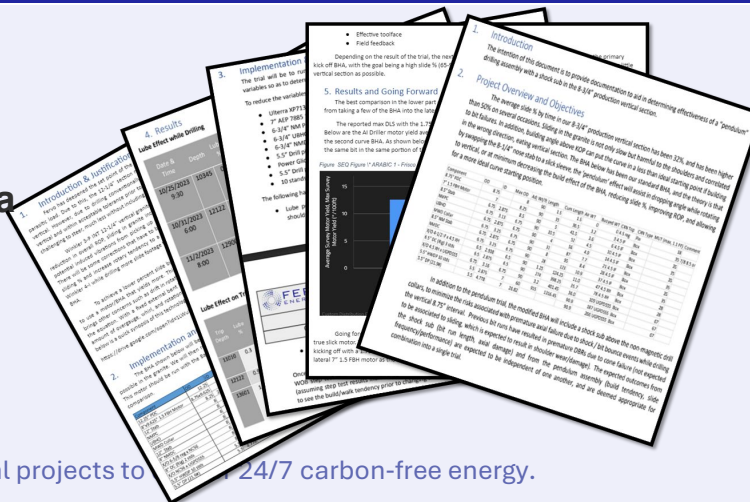
Lubricant for Friction Reduction



Drilling Fluid Cooling Systems

## Structured Trials

- Emphasize Iterative Improvement
- Trials structured for data clarity
- Isolate independent variables



## Collaboration



# Future of Fervo EGS Drilling

