

# Multi-Lateral Geothermal Sidetrack Success Continues in the Philippines

A geothermal sidetrack campaign for Philippine Geothermal Production Company Inc. (PGPC) demonstrates the value of the TrackMaster\* Select system.

## Key Solutions for Multilateral geothermal operations.

The close collaboration between Philippine Geothermal Production Company, Inc. and Wellbore Integrity Solutions' Red Baron team continued to deliver operational success with a recent cased hole sidetrack. To ensure success, where high compressive strength rock was found at the exit point along with a risk of lost circulation, the TrackMaster Select System was chosen. The system configuration consisted of a 13 3/8 X 20 hydraulic anchor, and Tri-mill assembly ensuring a secure anchor of the whipstock occurred and a full-gauge, usable window was provided. Customized procedures and contingency solutions were also developed. After drilling operations ended, the TrackMaster Select system was recovered to re-establish full wellbore access and enable multi-lateral production.

### Considerations:

- Achieve a successful exit in 13 3/8 inch casing at 3336 ft. with a DLS of 2.36deg/100ft. The exit should provide a full gauge, usable window.
- Select the optimum system configuration, including anchor type and mill, suitable for > 27 ksi UCS formation.
- Ensure comprehensive procedures were in place, with contingency options. Evaluate risks associated with loss circulation zones.
- Incorporate Gyro orientation method procedures.
- Ensure that the subsequent 12 1/4 drilling BHA would successfully pass through the window without resistance.
- Recover the TrackMaster System to re-establish wellbore access.

### CHALLENGE

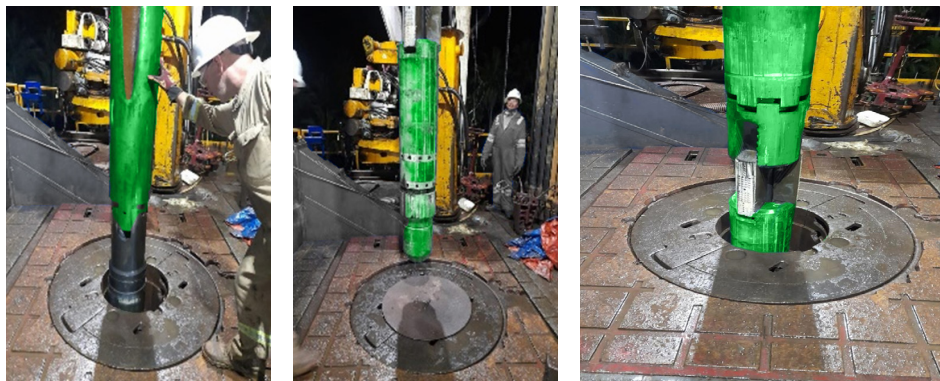
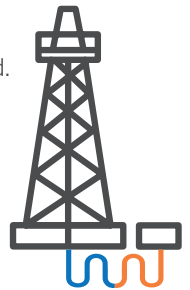
- Construct a multilateral geothermal well sidetrack from 13 3/8 inch casing in a hard rock.
- Ensure retrievability to provide the required multilateral architecture.

### SOLUTION

- A 13 3/8 inch TrackMaster Select System with a hydraulic set expandable anchor and hybrid Tri-mill assembly.
- Robust operational procedures and a collaborative approach with PGPC.

### RESULTS

- Accomplished sidetrack successfully in a hard rock formation.
- The TrackMaster Select System was retrieved after drilling operations to enable multi-lateral production.
- Customer satisfaction that the complex objectives were achieved.



Recovery of the TrackMaster Select System using the retrieval hook.

**TrackMaster Select™**

- A HISTORY OF INNOVATION
- UNRIVALED EXPERIENCE
- GLOBAL PRESENCE

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