CORETRAX

Coretrax's DAV MX provides effective circulation technology to US geothermal land well

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Account Manager – Technical Sales

Introduction

- Positioned Globally
- 50 + Technologies across 4 product lines
- Design Engineering team
- Applications Engineering
- 24/7 Operations Support

Geothermal Solutions

- Core Expandables: Expandable Liners with high-temperature sealing capabilities
- Aeon P&A: Reliable time saving technologies for well abandonment
- Origin WBCO: Large bore and high temperature cleanout tools
- Advance Drilling Tools: 12 years experience with high temperatures and high pressures

Background

- A client in North America planned to drill a closed-loop geothermal wellbore
- Bottom hole temperatures were estimated at 400ºC
- High temperatures increased risk of MWD Failure
- Risk of drill string pack off
- Need to reduce circulation through downhole motor to prevent casing damage

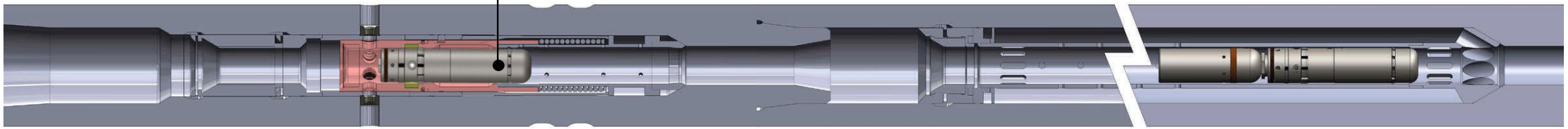
DAV MX Run History

- Over 3,000 Runs
- Rated to 250ºC
- 115 + Clients: Majors, IOC, NOC, Private, Major Service Companies
- Oil and Gas, Geothermal
- Onshore and Offshore
- Overall Reliability % = 98.4%
  - 99.01% Activation Reliability
  - 98.24% Deactivation Reliability

DAV MX Circulation Sub Overview

1. **Easy dart choice**
2. **Fast activation**

Standard Diverter



3. **Clear opening confirmation**

4. **No rig hands Required**
5. **Faster, safer tripping**
6. **Rapid and efficient closing**
7. **Unique back-up closing**

DART SELECTION

Standard Diverter Dart

Spotting LCM
Dry Tripping
Poor AV

Jetting BOPs/Wellhead

Ultra-Series Standard Diverter Dart

Soft-shear
High Speed Activation

Lor

s

Split Flow Dart

Hole Cleaning
Self Filling
Dry Tripping

BOP / WH Jetting
Reverse Circulating
Poor AV

Emergency Opening Ball

Pack Off / Low Flow

Alternative Diverter Dart

Special Applications
Jetting BOPs/Wellhead
Poor AV

Emergency Shut-Off Dart

Loss of seal integrity /
Washout contingency

Universal Closing Dart

Shear out activation dart to close the valve

Execution

- Staged in hole using DAV MX for circulation and increased TFA
- Pumped down split flow dart with 250gpm
- Quickly and efficiently cooled BHA and borehole to 250ºC
- Safely Reduced bit rotation and casing wear

- Successfully drilled through granite to reach TD at 18,000ft
- Proved economic feasibility resulting in additional funding to drill future wellbores

Thank You

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