

Outstanding Debris Management Results in a Deepwater, Gulf of Mexico Dual Casing Exit

Heli-Mag* high-capacity magnets recover 99% of ferrous debris in a challenging dual casing exit completed with the TrackMaster* Select Whipstock System.

A planned debris management program using Heli-Mag String Magnets compliments the use of TrackMaster Select System

During a dual casing exit planning process, an effective debris management program was incorporated with outstanding results. The dual casing exit was required through heavy wall, high strength casing, 10³/₈ inch 79.29# Q-125 HC and 13⁵/₈ inch 88.2# TN-125 HC.

To ensure effective debris management, 10 Heli-Mag high capacity string magnets were placed in the BHA at the optimum position with capacity to retain a large volume of ferrous debris. The incorporation of the Heli-Mag magnets in the BHA was to mitigate known operational risks resulting from the accumulation of metal cuttings in the wellbore and alleviate any safety concerns associated with handling the cuttings.

After the casing exit was completed successfully, the Heli-Mag magnets were included in subsequent BHAs to further remove any residual ferrous debris. In total, 2,664 lbs of debris was recovered.

Debris Recovery Summary: Total Recovered 2,664 lbs

During Milling: 10 Heli-Mags recovered 1,610 lbs of debris downhole while 16 lbs was recovered by the rig solids control equipment

Subsequent Runs:

- A Motor BHA with 10 Heli-Mags recovered 686 lbs of debris
- A Storm Packer Retrieval operation with 9 Heli-Mags recovered 194 lbs of debris
- A Rotary Steerable BHA with 4 Heli-Mags recovered 174 lbs of debris

The incorporation of the Heli-Mag String Magnets in the BHA with the TrackMaster Select Whipstock System demonstrated that the ferrous debris was fully captured and removed from the drilling fluid, thereby minimizing known operational risks associated with debris in the wellbore.

TrackMaster Select™

- A HISTORY OF INNOVATION
- UNRIVALED EXPERIENCE
- GLOBAL PRESENCE



CHALLENGE

A deepwater exploration leader in the Gulf of Mexico was expecting a large volume of metal cuttings to be generated during a heavy wall dual casing milling operation. There was a concern that the amount of metal cuttings produced would cause adverse conditions in the wellbore, drilling fluid, and the BOP stack.

SOLUTION

- The Gulf of Mexico WIS Team advised the use of Heli-Mag String Magnets in the BHA, positioned appropriately to maximize debris recovery.
- With the magnets in place the team successfully milled the window exit and captured 99% of the ferrous debris, alleviating potential downhole issues associated with the build up of metal cuttings.

RESULTS

- The planned dual casing exit was executed successfully in accordance with the plan.
- The Heli-Mag assemblies captured a total of 2,664 lbs of metal cuttings downhole.
- Only 16 lbs of metal cuttings returned to the surface and was captured at the rig solids control equipment, less than 1% of the total debris recovered.

