

# Successful RockStrong™ Coring System Operation for Carbon Capture and Storage Campaign

**COREHEAD DESIGN OPTIMIZED WITH MACHETE™ CUTTERS AND SHYFTER™ ACTIVE BACKUP ELEMENTS FOR ENHANCED PERFORMANCE AND MAXIMUM EFFICIENCY**

MIDDLE EAST

## CHALLENGE

- » Conventional coring to test the permeability of a targeted unconventional formation characterized by soft to medium interbedded sandstone and shale
- » Downhole vibration and potential jamming upon increased parameters to gain ROP

## SOLUTION

- » Deploy the RockStrong™ coring system and unique BHA modeling programs to better understand BHA and drill string dynamics
- » Enhance corehead design with 8-1/2 × 4 in. FC74WRKs bit fitted with Machete™ cutters for drill bits and Shyfter™ active backup elements for enhanced performance and maximum efficiency
- » Optimize core barrel length and coring road map parameters based on BHA modeling

## RESULT

- » 109 meters vertically cored in three runs using single corehead
- » 100% high-quality core recovery with 100% core efficiency
- » Successful core processing

## OVERVIEW

An operator engaged Halliburton to perform a conventional coring operation to test the permeability of a targeted formation as part of a carbon capture and storage (CCS) campaign.

## CHALLENGE

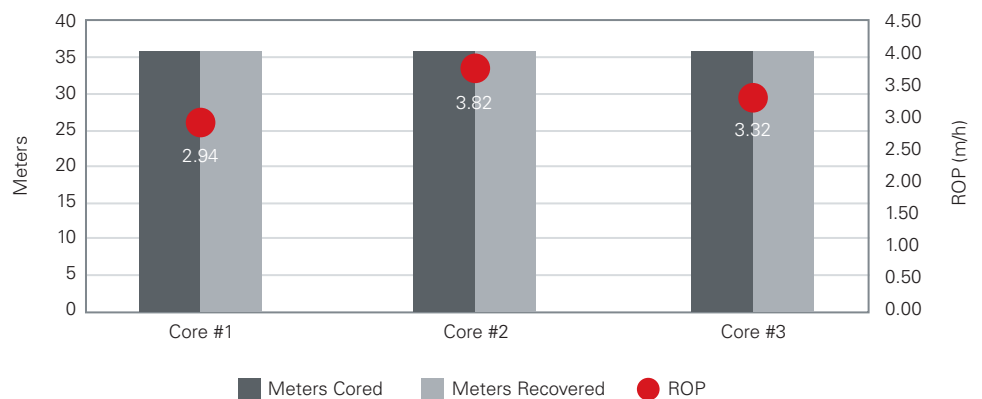
This unconventional formation is characterized by soft to medium interbedded sandstone and shale. The operator's primary concern was downhole vibration and potential jamming upon increased parameters to gain rate of penetration (ROP).

## SOLUTION

Halliburton developed an integrated solution within multiple product service lines that implemented lessons learned and knowledge gained from previous projects with the operator. The drilling team selected the RockStrong™ coring system for interbedded environments. This system features a unique swivel assembly designed with jam mitigation to operate reliably in extreme wellbore environments. Utilized unique modeling programs to better understand BHA and drill string dynamics.

Halliburton optimized a new generation core head design that consisted of an 8-1/2 × 4 in. FC74WRKs bit fitted with Machete™ cutters for drill bits, which pre-fracture rock through point

**Coring Performance Summary**



loading, and Shyfter™ active backup elements for enhanced performance and maximum efficiency. The team optimized the core barrel length and coring road map parameters based on BHA modeling and previous coring experience.

**RESULTS**

Halliburton vertically cored a total of 109 meters in three runs and achieved 100% high-quality core recovery with 100% core efficiency. Core processing included marking, surface gamma ray logging, core stabilization, core preservation, and core packing. All three runs were completed using one corehead with zero NPT or HSE issues.



8-1/2 x 4 in. FC74WRKs



RockStrong™ coring system

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