

# Memory-Only Centerfire LWD - Case Study

## The Challenge

A leading MWD operator requested Black Diamond provide a resistivity LWD solution for deployment in the Denver-Julesburg (DJ) Basin in Northern Colorado. They requested a memory-only system which could be run with minimal impact on existing operations.

## The Solution

Black Diamond prepared and deployed the 6.91" Centerfire LWD system and supported the MWD operator in the running of the tools.

## The Results

The Black Diamond team fully assembled the system in the workshop to minimize impact on rig operations. Battery Modules were connected to the Centerfire collar allowing for a total of over 220 hours downhole operation. A standard pony Battery Collar and Saver Subs were torqued to the Centerfire, and the assembly fully tested before powering down and shipping to the rigsite.

At the rigsite the operator simply installed the Spearpoint to power up the system and then connected the communication cable to the Centerfire collar to set the recorder timestamp. The assembly could then be lifted to the drill floor and installed in the BHA.

At the end of the run the Centerfire raw memory data was downloaded. This data was processed in less than 5 minutes to output a time-indexed LAS file of 8 x environmentally corrected, borehole compensated resistivity data sets. This LAS file was then imported into the logging software which merged it with depth data creating a high-resolution resistivity log.

The system was then left in a powered-down state until the next run.

Based on the ease of operation and the quality of the results the solution has been deployed a number of times and remains the system of choice for the operator.

Operational Data			
Runs	Hours	Max. Temp	Issues
6	277	102 °C	0

Memory-Only Centerfire LWD outperforms all existing systems in its class. The system is available in three sizes - 4.75", 6.91" and 8.25" - each providing eight different depths of investigation [DOI] borehole compensated resistivity data sets (19" & 41" spacings, 400 kHz & 2 MHz, Phase Difference & Attenuation). Gamma data is also available and the system benefits from a standard maximum operating temperature of 175°C. Standard setup (records every 10 seconds) allows 250 hours of recording. 2 x standard batteries allow for 220 hours operation and a third can be added if required.

Centerfire LWD is a proven system with over 200 collars deployed globally in both realtime and memory-only operations. It is recognized for the unmatched reliability and stability of its measurements together with a robust architecture that excels in the most challenging drilling environments. The Centerfire LWD system opens up new lucrative markets for operators of all sizes. Coupled with the best-in-class support provided by Black Diamond, users can count on Centerfire LWD.

Black Diamond is a leading provider of energy services, with a team of experts dedicated to delivering the best possible outcomes for our clients. Our product offering includes drilling motors, drill pipe, drilling tools, M/LWD technology, and accompanying services, and we are committed to ensuring our clients' success in every project we undertake.

