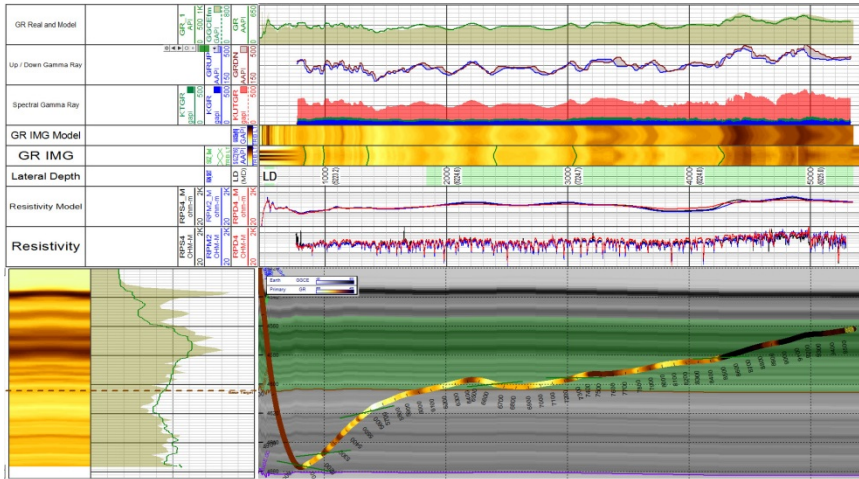


SpectralWave® Sensor Delivers High-Quality Data To Drill 91° Lateral Within Pay Zone in One Run



The logging image above indicates the path drilled across the target zone (in green). The Weatherford team intentionally drilled the well down to the base of the underlying formation to gather data, and then they rebuilt into the pay zone.

Objectives

- Geosteer and drill the first lateral in the operator’s horizontal shale gas well.
- Maximize reservoir exposure by landing at the base of the pay zone and drilling across it for 3,545 ft (1,080 m) while accurately placing the well in the stratigraphic sequence.

Our Approach

- Weatherford deployed logging-while-drilling (LWD) systems—including the SpectralWave spectral azimuthal gamma ray sensor and the multifrequency resistivity (MFR™) sensor—and the hostile-environment-logging (HEL™) measurement-while-drilling (MWD) system to provide real-time geosteering support for the entire lateral section.
- The SpectralWave sensor obtained data that resulted in a high-resolution gamma ray image. The Weatherford team used the image to ascertain structural dip information, to determine whether they were drilling with or against the rock strata, and to evaluate the organic richness and clay content of the reservoir while drilling.
- The team effectively geosteered the 8 1/2-in. lateral section for 3,545 ft (1,080 m) into the target zone.

Value to Client

- Weatherford logging and geosteering services helped to drill the first lateral in the operator’s horizontal well in one run and to stay in the zone of interest.
- Using data from the SpectralWave sensor enabled geosteering and positioning the wellbore in the upper zone with the optimal petrophysical properties for increased production and profitability.

LOCATION

Indiana, USA

WELL TYPE

Onshore, horizontal, gas

HOLE SIZE AND ANGLE

8-1/2 in., 91°

TOOL SIZE

6-3/4 in.

SECTION LENGTH

3,545 ft (1,080 m)

MEASURED DEPTH

9,578 ft (2,919 m)

TOTAL VERTICAL DEPTH

4,562 ft (1,390 m)

PRODUCTS/SERVICES

- SpectralWave sensor
- MFR sensor
- HEL MWD system
- Downhole motor



The Weatherford SpectralWave sensor is particularly valuable in shale reservoir development, where the real-time borehole images facilitate geosteering and provide formation structural information.

