

Integrated Services Team Helps Operator Re-establish Presence in Colombia With Zero HSE Issues and <3% NPT



Weatherford provided integrated project management and support services for the entire operation.

Objectives

- Provide integrated services for all phases of an exploratory project in the Middle Magdalena Valley, a region in Colombia with high potential for recovering unconventional resources. This was the operator's first project in the country in more than 20 years.
- Drill a stratigraphic test well and gather essential formation information.
- Assist the customer with all legal, environmental, logistical, civil, and community-relations aspects of the project. Provide project management and additional support services as needed.

Our Approach

- Weatherford assembled a multidisciplinary team of personnel experienced in project management; logistics; health, safety, and environment (HSE) supervision; procurement; civil-works design and operations; and security. The customer vetted and approved all personnel before operations began.
- The Weatherford team adapted a nearby yard for use as a logistical base of operations. Together with the customer, the team completed infrastructure improvements including road upgrades, the construction of a new platform, and the design and construction of a bridge over the Caño Caiman River.
- Using a HyperLine™ QLE6750 mud motor, the team drilled a stratigraphic test well to 16,406 ft (5,000 m). The Victus™ control system monitored the formation pressure throughout the drilling process, which enabled efficient drilling through the high-pressure Umir and Simiti formations.

LOCATION

Middle Magdalena Valley, Colombia

WELL TYPE

Exploratory

FORMATION

La Luna, Simiti, Umir

HOLE SIZE AND ANGLE

- 12 1/4-in. openhole section
- 26-, 17 1/2-, and 8 1/2-in. cased sections

TOTAL DEPTH

16,406 ft (5,000 m)

CASED-HOLE SECTION

12,103 ft (3,689 m)

OPENHOLE SECTION

10,000 ft (3,048 m)

PRODUCTS/SERVICES

- Drilling services
- Managed pressure drilling
- Wireline services
- Cementing products
- Drilling tools
- Tubular running services
- Well engineering and project management
- Drilling fluids and waste management
- Drilling rigs



Integrated Services Team Helps Operator Re-establish Presence in Colombia With Zero HSE Issues and <3% NPT

Our Approach (continued)

- The team completed the well using 9 5/8-in. casing. At 12,103 ft (3,689 m), pressure increased unexpectedly to more than 15 lb/gal (1,797 kg/m³). The Victus control system and managed pressure drilling (MPD) techniques quickly stabilized pressure.
- With the pressure stable, the next challenge was to obtain a core sample of the La Luna formation. The team recovered 730 ft (223 m), or 90%, of core using wireline coring technology. The water-based WEL-DRILL™ Plus formula helped to maintain wellbore integrity and mechanical stability in the pay zone during the coring operation.
- Surface gas detectors collected and analyzed hydrocarbon and nonhydrocarbon gases within the returning mud during the coring operation, and a sampling system provided isotopic analysis of the mud-gas samples. The resulting data enabled Weatherford wellsite advisors, working together with the customer, to identify the pay zone and the formation tops.
- The team preserved and analyzed the core sample and provided local services including slabbing, spectral gamma ray analysis, extrusion, photography, and CT scanning.
- The hydraulic catwalk handled pipe throughout the operation, which enhanced safety.

Value to Customer

- The team completed the entire job—including the design and execution of civil works projects—in 291 days with less than 3% nonproductive time and within budget.
- Weatherford met the customer's goal of zero HSE incidents.
- As a result of the integrated logistical and operational services provided by Weatherford, the customer was able to re-establish its presence in an unfamiliar country with a unique social and political environment.

