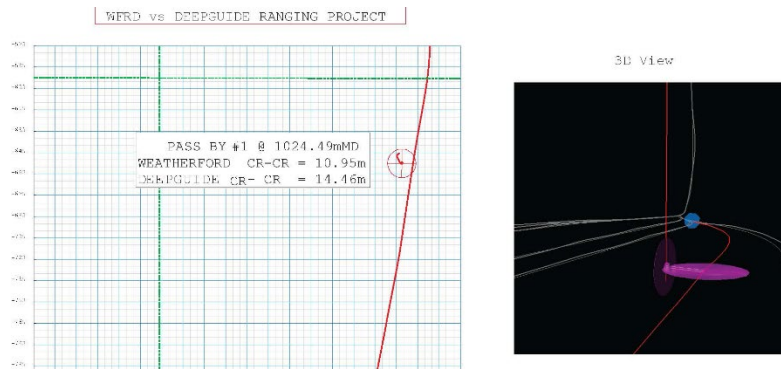


Drilling Services Perform Vertical Pass-By Ranging to 3 Wells on a Single Lateral Leg



The left section of the image presents a top-down view, and the right section offers a 3D visualization. The DeepGuide rotating magnet ranging system, conveyed via wireline, uses a mono-conductor telemetry system. This system incorporates adaptive filter tuning to optimize the signal-to-noise ratio.

Objectives

- Drill a 6-leg multilateral well in a heavy oil reservoir in Alberta, with one leg required to be drilled in close proximity to three vertical wells.
- Prevent wellbore collisions and maintain a planned separation of 32.8 ft (10 m).

Our Approach

- Weatherford field personnel deployed a bottomhole assembly comprising of the following equipment: a rotating magnetic ranging system, the enhanced electromagnetic (EM) HEL system, the MFR tool, the HAGR tool, the dual IDS tool, and the Hyperline 250 drilling motor.
- The combination of the non-magnetic drilling motor and the dual IDS tool enabled close-to-bit continuous dynamic rotating inclination, ensuring precise directional placement of the drilling well.
- Weatherford wireline services deployed the DeepGuide sensor inside three offset vertical wellbores and used it to conduct gyro surveys of the three wells, thereby reducing positional uncertainty.
- The DeepGuide system provided accurate magnetic measurements to ascertain the proximity of the drilling well to the offset vertical wellbores.

LOCATION

Canada

WELL TYPE

Heavy oil, horizontal, multilateral

HOLE SIZE AND ANGLE

8-3/4 in. (222 mm), 90°

CASING SIZE

9-5/8 in. (244.5 mm) intermediate string

TEMPERATURE

116°F (47°C)

DEPTH

BHA in: 2,595 ft (791 m), 90.14°

BHA out: 5,498 ft (1,676 m), 90.50°

PRODUCTS/SERVICES

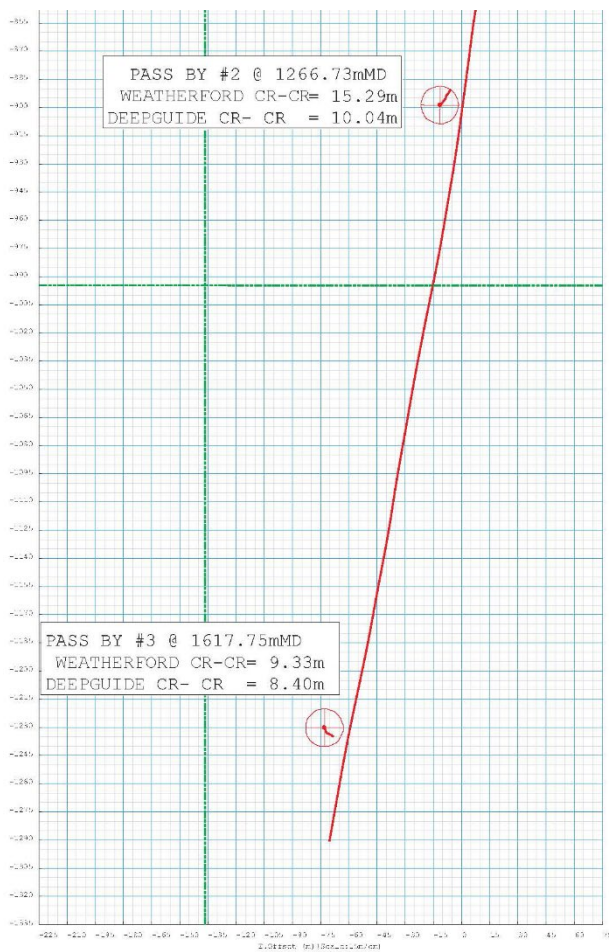
- HEL™ hostile-environment-logging measurement-while-drilling system
- HAGR™ high-temperature azimuthal gamma ray tool
- MFR™ multi-frequency resistivity tool
- Dual IDS™ near-bit dynamic rotating inclination
- HyperLine™ 250 non-magnetic drilling motor
- WellPlaced Survey Management (IFR, MSA, SAG)
- DeepGuide Rotating magnet ranging system
- Weatherford wireline services



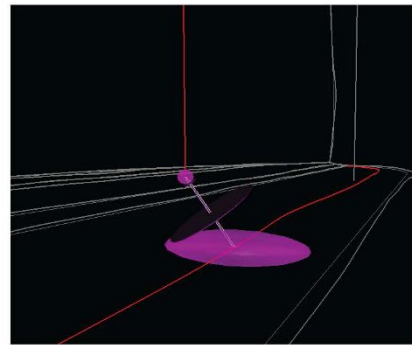
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Value to Customer

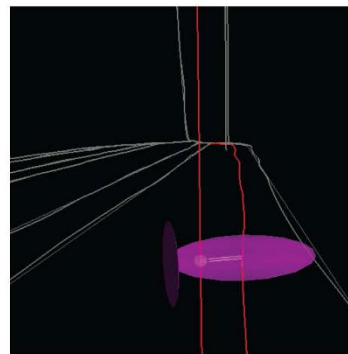
- Weatherford expertise and technology enabled accurate measurements of distances to offset vertical observation wellbore to prevent any collisions or damages to either wellbore.
- The results accurately measured separation distances between wells for monitoring purposes.



3D View



3D View



Passes 2 and 3 of the operation.

