

TwinWells™ Ranging System, HyperLine™ Motor

Drill 4,400-ft SAGD Injector Lateral in 7.75 Hours

Objectives

- Drill steam-assisted gravity drainage (SAGD) well pairs, placed 16 ft (5 m) total vertical depth (TVD) on top of one another.
- Use the TwinWells active magnetic ranging system to determine accurate wellbore separation.

Our Approach

- Weatherford field personnel deployed a bottomhole assembly consisting of the following equipment: a magnetic ranging system, the enhanced electromagnetic (EM) MWD system, the MFR tool, the UGR tool, the Inc-Sonde tool, and the HyperLine 250 drilling motor.
- The combination of the non-magnetic drilling motor, Well Placed Survey Management, and the Inc-Sonde tool allowed close-to-bit continuous dynamic rotating inclination for accurate landing of the drilling well.
- The TwinWells system provided precise magnetic measurements to determine the proximity of the drilling well to the offset producer wellbore for the entirety of the lateral section.

Value to Customer

- The Weatherford solution enabled the operator to achieve a faster average rate of penetration (ROP) for the injector lateral.
- The drilling technologies provided accurate placement of the injector well to the producer.
- The operation only required a sliding time (the amount of time needed to make directional change to the wellbore) of 8%.



The Weatherford TwinWells ranging system accurately measures distances between drilling and offset wells

LOCATION
Alberta, Canada

WELL TYPE
SAGD injector

FORMATION
McMurray

HOLE SIZE AND ANGLE
8-3/4 in. (222 mm), 90° lateral

TEMPERATURE
95°F (35°C)

DEPTH
4,488 ft (1,368 m) MD (lateral section)
1,558 ft (475 m) TVD

PRODUCTS/SERVICES

- EMPulse™ electromagnetic MWD system
- UGR™ universal gamma ray tool
- Inc-Sonde™ near-bit dynamic rotating inclination tool
- MFR™ multi-frequency resistivity tool
- HyperLine 250 drilling motor
- WellPlaced Survey Management (IFR, MSA, SAG)
- TwinWells ranging system
- Weatherford wireline services

