CHALLENGE
Determine where to drill another well in a productive turbidite sand channel without seismic information.

SOLUTION
Use Rt Scanner* triaxial induction service to obtain robust structural dip information in a single run.

RESULTS
Determined the direction followed by the sand body from stratigraphic interpretation of the dip information to successfully place a second well in the reservoir.

Following turbidite channels
An operator wanted to place additional wells in a productive turbidite sand in Mexico. But turbidite channels rarely follow a straight line, so determining the direction of the sinuous sand body was critical.

Measuring dip to build stratigraphic insight
In addition to measuring horizontal and vertical resistivity at any well angle to the formation layering, in the presence of invasion, and for a wide range of borehole conditions and formation environments, Rt Scanner triaxial induction service computes layer dip at 10- to 50-ft [3- to 15-m] intervals. Although these dip measurements are at a lower vertical resolution than those from an image tool or dipmeter, they are sufficiently robust to provide critical structural information and detect major events such as unconformities or faults crossing the borehole. Additional stratigraphic insight results from pairing dip measurements from Rt Scanner service with those from the OBMI* oil-base microimager.

CASE STUDY
As shown on the dip direction rose plots to the left, stratigraphic interpretation of Rt Scanner service dip information revealed that the turbidite channels were deposited from northeast to southwest.
Finding the reservoir sand
Stratigraphic interpretation of the dip measurements from Rt Scanner service and the OBMI microimager assumed a channel geometry with fine accretionary overbank deposits resulting from the lateral and downstream migration of relatively sinuous and confined subaqueous channels. In this scenario, the strike of the bedding in the argillaceous channel base indicates the direction the channel followed.

This information was used to locate the next well northeast of the original Well A. With its trajectory planned using the dip interpretation, Well B intersected the same good-quality sands of the turbidite channel.