Case Study
Transforming Seismic Attributes Into Operational Insight

Challenge

When Painted Pony, a Canadian Operator in the Montney shale gas play, asked the question, "How do we get more information about rock properties and lithologies from our seismic inversion results," they investigated QI-Pro by Sound QI and were impressed. As a small E&P company with 50 of the top 200 performing wells in the North Montney, maintaining a competitive advantage and managing operational overhead and CapEx is a top priority for their asset team.

"Our asset team is predominantly focused on operations and we have little time to spend on technical endeavors. Every investigation, workflow and interpretation is aimed at optimizing our drilling and completions program, and our seismic data plays a key role."
- Matt Ng, Asset Team Lead of Painted Pony

Summary

Location
British Columbia, Canada

Asset
Montney Formation

Basin
Western Canadian Sedimentary Basin

Operator
Painted Pony Energy, Ltd.
www.paintedpony.ca

Application
Shale gas and Gas Liquids

Background

When you have dozens of wells and potentially hundreds of seismic attributes, how do you determine which attributes, or more precisely - which combination of attributes, are associated with marginal vs. excellent well performance? How can you utilize seismic data to more accurately predict production volumes?

PAINTED PONY ENERGY LTD.

www.sound-qi.com

These were the questions the geophysicist at Painted Pony wanted to understand to help his reservoir engineers and geologists select the most lucrative well locations, and to inform completions strategies based on seismically derived rock properties.

To answer these questions, they needed the ability to simultaneously study patterns, performance, and seismic inversion results of entire sections and/or fields in a simplified way that wouldn't take an eternity. More importantly, the investigation could not disrupt operations, and had to deliver meaningful results to the asset team beyond pure science.

"Using the Attribute Adviser feature in QI-Pro is our way of applying data science to geophysical attributes. It helps us look at things ahead of the curve and find relationships quickly. We want our seismic interpretations to play a major role in decision-making. It used to be all about getting the best possible, highest quality image, but in today's fluctuating oil economy, we are much more focused on optimizing our cost structure. Our seismic investment needs to extend beyond just imaging,"
- Matt Ng, Asset Team Lead of Painted Pony

The QI-Pro Advantage

—

QI-Pro is a software application designed to enable rapid interpretation of seismic attributes. As soon as the geoscience team at Painted Pony saw a demonstration, they knew instantly that it solved their problem and addressed the questions they were asking about their data.

With QI-Pro, Painted Pony could import all of the available seismic attributes and well data, and begin to rapidly assign geobodies. They could also validate the attributes provided by their 3rd party vendors against the actual geology, and could modify and/or test various scenarios without reworking the entire volume. This saved a tremendous amount of time and enabled new visibility into the meaning of the attributes and rock properties. It also gave the team a way to use all the attributes to make a decision instead of just one or two.

In QI-Pro they could reveal the associations between the rock properties and well performance, and they began to identify their own brand of "Super Attributes": those combinations, in multiple dimensions, that were directly tied to productivity. This provided a whole new way of using the seismic data, and opened the door to deeper understanding of the data.

—

Main Offices:
125 9 Ave SE #2130
Calgary, AB T2R 0A2
Canada

Contact Us:
info@soundqi.com