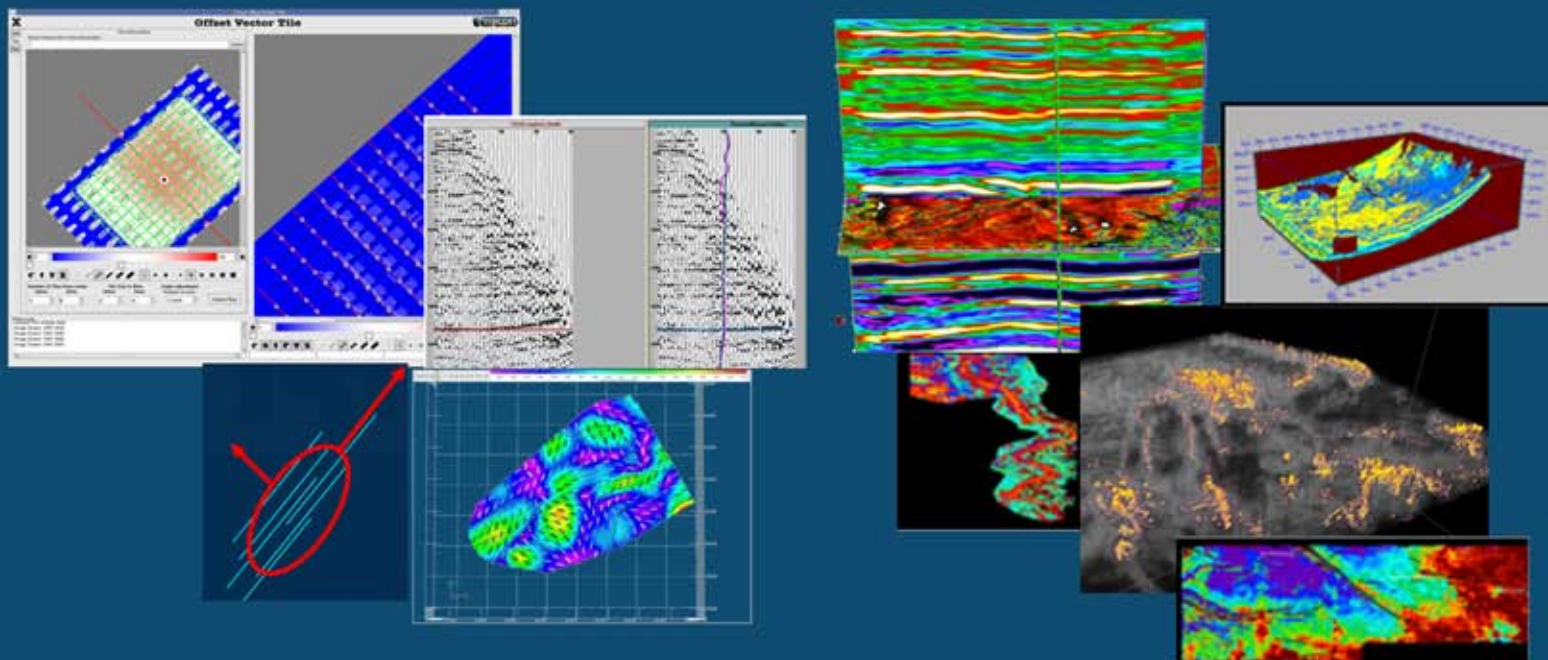


## Advanced Seismic Technologies for Sweet Spot Identification In Unconventional Resource Plays



Offset Vector Tile Binning preserves true amplitude, offset and the azimuth information through pre-stack migration. This enables HTI and VTI velocity analysis and AVO/AVZ analysis to be based on azimuthal range gathers.

High Density, High Fidelity Velocity Estimations are based on 4th order RNMO corrections at every cdp point. These velocities provide clean, conditioned gathers and reveal structural detail and amplitude definition in the stacked section.

Kinematic Seismic Analysis is used to describe P and S wave anisotropy and define  $V_{fast}$  and  $V_{slow}$  directions. This analysis allows the mapping of the direction and intensity of fracture systems.

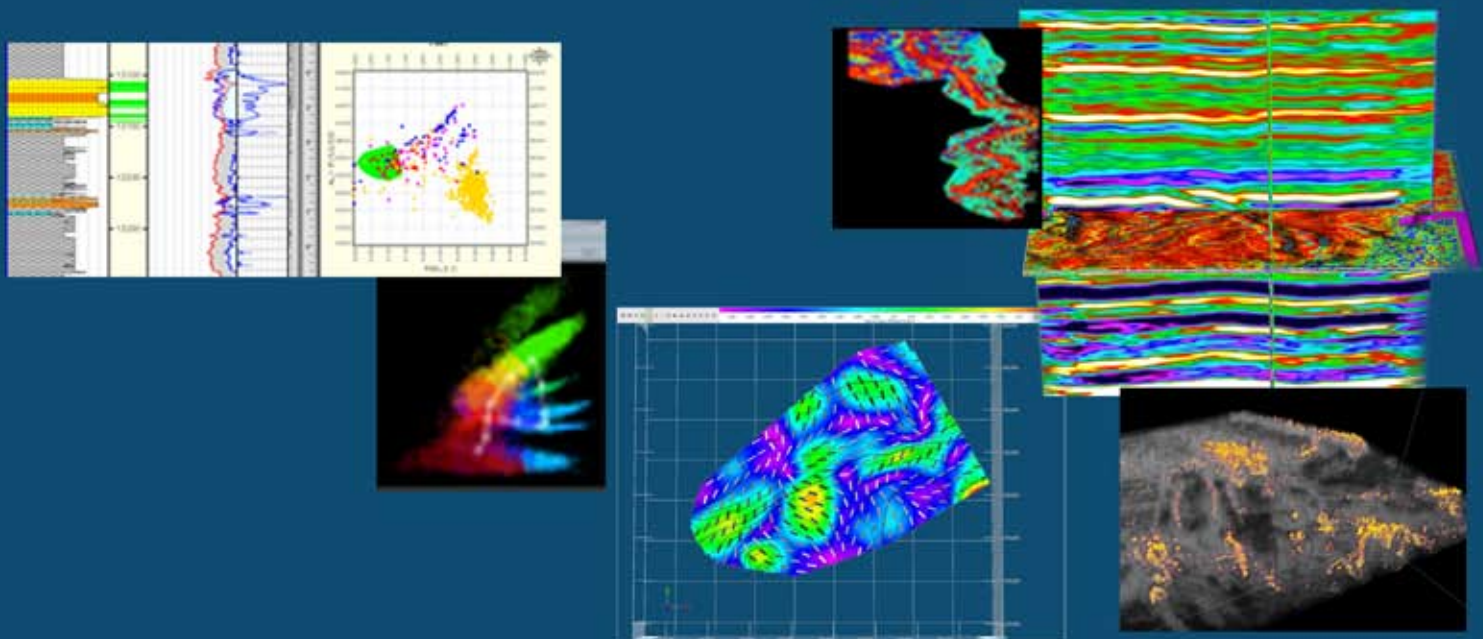
Pre-Stack Simultaneous Inversion by Azimuthal Range and Full-Azimuth provides a series of high resolution reservoir attributes which characterize reservoir sweet spots.

Experienced TRICON Processors and Interpreters provide map and 3D images of reservoir data to aid in the interpretation of project results. Additional interpretation consulting is also available.

**TRICON's Reservoir Services Group... "Taking Your Seismic Data Further Than Expected"**

## Finding Sweet Spots In Unconventional Resource Plays

At TRICON, sweet spot identification begins and ends with the integration of petrophysical and geophysical analyses. Rock properties within the reservoir are characterized by petrophysical analysis of existing well data. The petrophysical study is then used to guide the direction of the geophysical analysis. After kinematic and amplitude analysis of the seismic data is performed, the results are verified and correlated with well data and petrophysical analytical results.



Integrated Petrophysical and Geophysical Studies – The Key to Finding Sweet Spots

It is this integration of geological and geophysical data that provides the best results in identifying highly productive zones within a reservoir based on parameters such as brittleness, fractures, TOC, porosity and permeability. Identification of these zones is used to direct drilling patterns to optimize production. Production may easily vary 10 fold within an unconventional reservoir so it is imperative to fully understand the reservoir to get the highest ROI possible.