HampsonRussell

ProMC

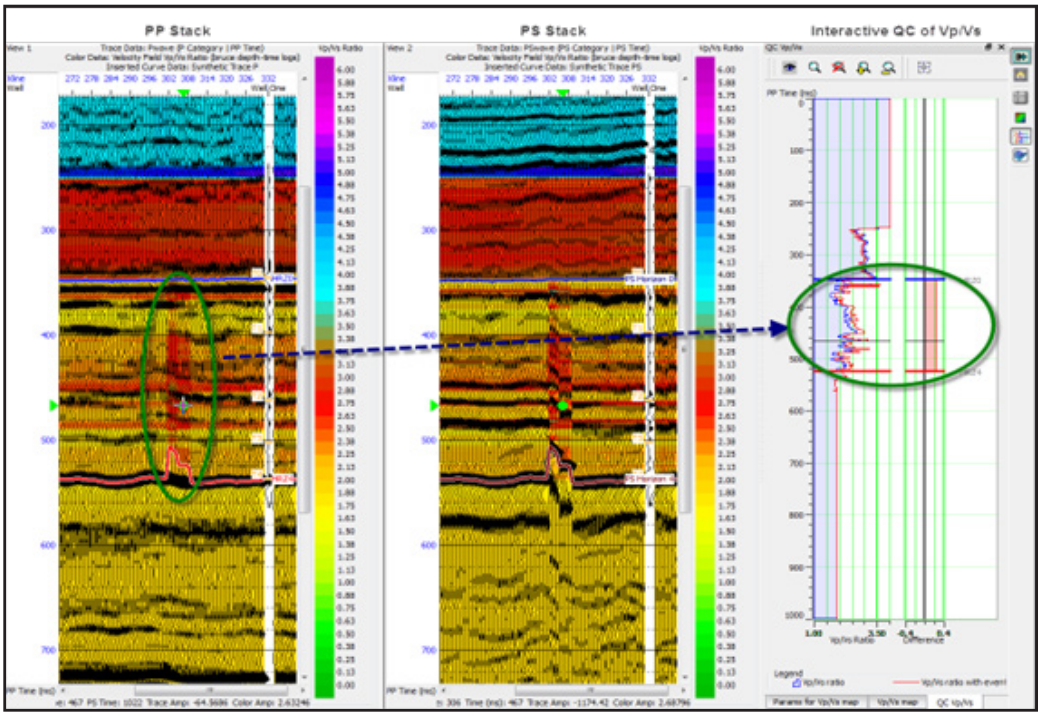
ProMC: Multi-Component Analysis and Inversion

Unlock the full potential of your multicomponent seismic project with **ProMC** solution designed to empower geoscientists in handling the complexities inherent in multicomponent data. **ProMC** addresses challenges arising from differences in event times, frequencies, and reflectivity between PP and PS seismic volumes. **ProMC** efficiently inverts both PP and PS data, providing estimates of P and S impedances, Vp/Vs and density.

Why interpret MC seismic?

- Imaging through gas clouds. Structure can be obscured by gas clouds. MC data provides a technique to properly image structure.
- Fracture analysis. Since S-wave are polarized, analysis of the different S-wave modes can give information about fractures. The shallower reflection angle of S-waves means that imaging of shallow faults is enhanced compared to P-wave.
- Lithology /Fluid identification. The different seismic waves have different responses to fluid and lithology changes, giving a discriminator for different events.
- Improved Time-Lapse interpretations. To resolve non-uniqueness between pressure and saturation changes.

The interactive **ProMC** PP-PS Horizon Analysis and QC tool can be used to identify and pick PP and PS horizons for the horizon-based registration of the PS data. This powerful tool allows the interpreter to modify the horizons and immediately see the changes to the Vp/Vs ratio and the registered PS dataset.



Horizon analysis tool with PP/PS event matching applied. The interactive Vp/Vs QC graph shows the effect of event matching on the initial Vp/Vs ratio at the cursor location.

GeoSoftware™

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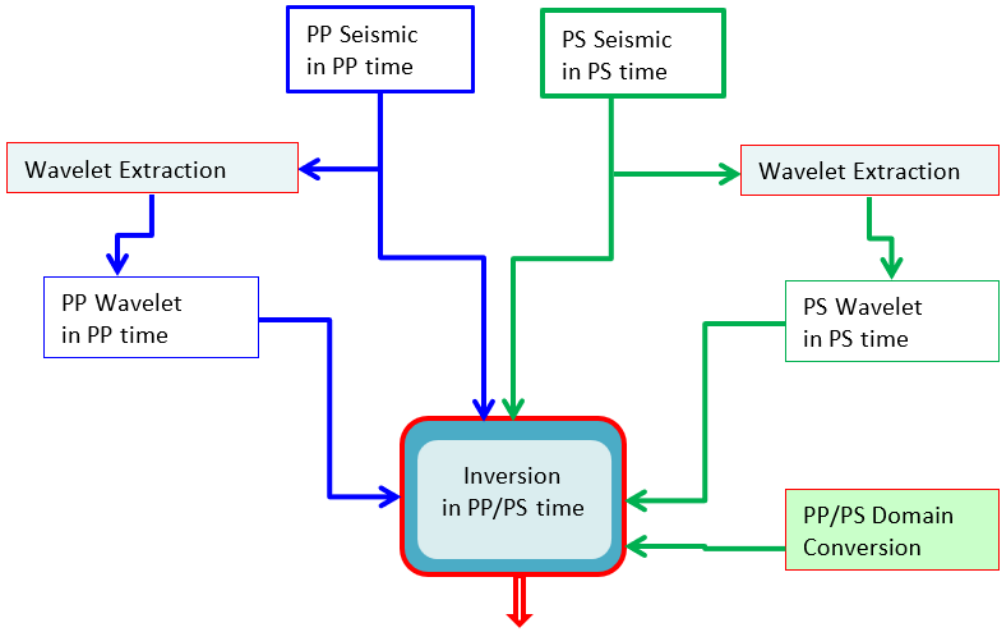
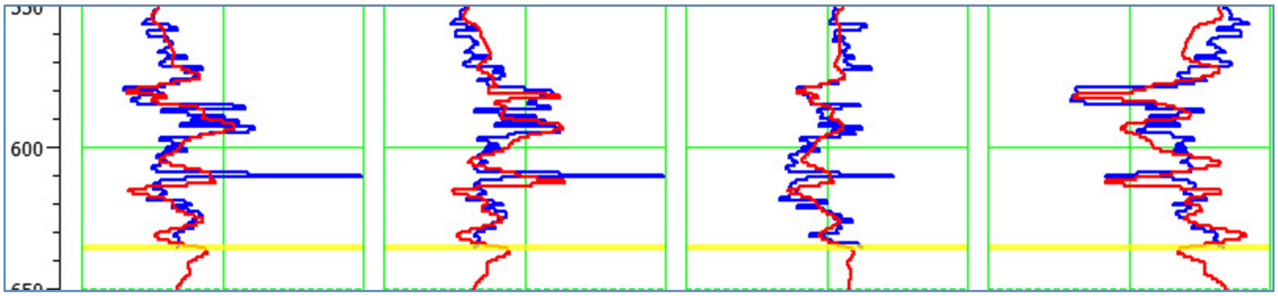
ProMC PP/PS Inversion Workflow

After the horizons are picked and the Vp/Vs ratio has undergone quality control, the registered dataset is ready to be used in PP-PS Joint Inversion. The following diagram illustrates processes and data involved when inverting PS seismic in PS time:



ProMC provides a robust and reliable approach to PP/PS inversion. By adding PS data, the solutions for Zs, Density, and Vp/Vs are enhanced.



Inversion using PP and PS: