



IHS ENERGY

AVOPAK™

Performance to Maximize Existing Assets and Drive New Exploration

Risk Reduction is a key component of today's interpreter's challenge. AVO/AVA analysis has proven to reduce risk in many geological provinces. AVOPAK provides AVO interpretation and analysis on the desktop for every geoscientist.

BENEFITS:

- Enhanced productivity for prospect evaluation
- Integrated, interactive environment increases interpreter productivity
- Reduced risk and project costs

AVOPAK brings powerful visualization and interpretation of prestack gather data to the interpretation desktop. Interpreters can load, view, and interpret gather data for AVO anomalies in the same project and application used to interpret their traditional stack data. Each gather can be displayed and compared to multiple data types such as the stack trace, common offset or angle stack traces, well log curves, synthetics, or extracted seismic sections — all in the same system.

The amplitudes from any horizon interpreted on a gather are automatically graphed by offset, angle, or sin squared of the angle, and AVO attributes from standard Zoeppritz approximations are automatically calculated. These same attributes can be extracted by horizon or on a regional volume basis and used in standard AVO cross plotting techniques to isolate the various AVO class sands, stratigraphic trends, and fluid factor. By highlighting various areas in the crossplot, the interpreter can isolate these areas and display the results in a vertical seismic section, in the map display and in VuPAK. Gathers can also be rapidly visualized in VuPAK for quick quality control, comparison to stack data and attributes, and prospect to analog comparisons.

AVOPAK Key Features

AVOPAK is fully integrated with 2d/3dPAK, IHS's geophysical and geological interpretation software package. All of the displays, interpretation modes and user dialogs use standard IHS interfaces. While loading gathers into a project, users can generate offset or angle volumes, compute inside and outside mutes, and adjust the vertical and lateral gain. These same processing capabilities are available when displaying and interpreting the loaded gathers. In addition, the user can apply bandpass filtering, phase rotation and can even display a range of seismic attributes calculated from a specific group of user selected gathers.

Gathers

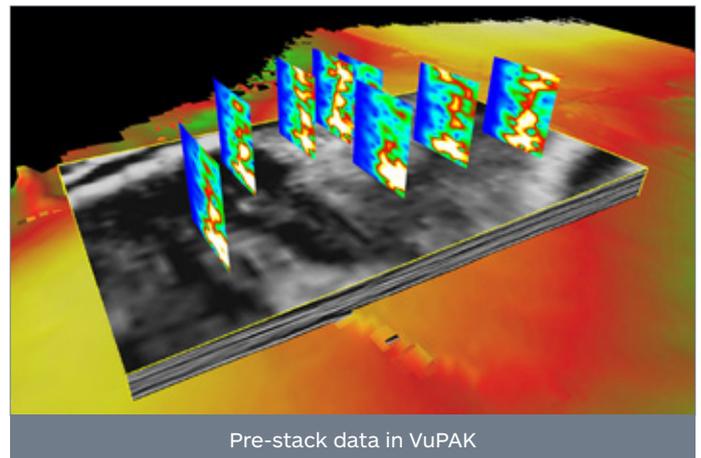
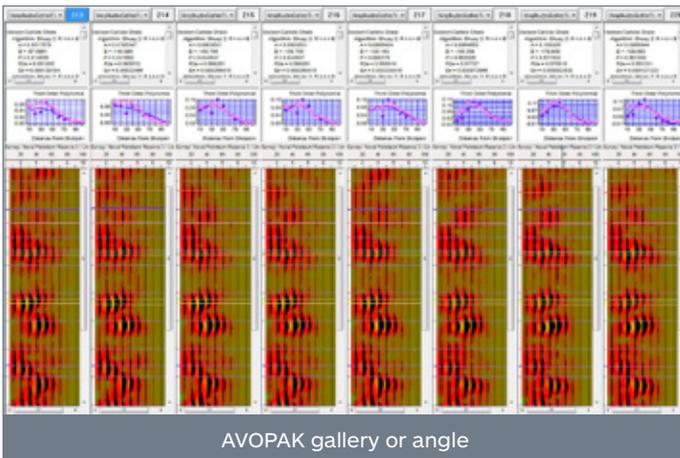
- Load into same survey as stacked data as another data type
- Display using same methods as stacked data in both 2D and 3D (VuPAK)
- Interpret horizons using same methods, with the option to use the stacked horizon as the seed point
- Display the crossplot of amplitude versus offset for each gather
- Display well logs, stacked traces, partial stacks, mini-sections, Velocity and TD curves for correlation purposes
- Use a constant average velocity, a TD curve, or a velocity volume to compute angles and AVO attributes
- Correlation polygon to compare gather to gather or stack to gather
- Create a crossplot from selective gathers of AVO attributes for specific detailed analysis

Data Conditioning and AVO attributes

- Industry standard AVO attributes, Shuey 2 and 3 term, Verm-Hilterman
- Linear regression analysis
- Nth order polynomial fits
- Sample extractions of fold, sum, and average
- Bandpass filter, mute, horizontal and vertical gain, phase rotation, standard Hilbert transform attributes
- Stacking of gathers - full or partial, offset distance or angle

Analysis

- AVO attribute extraction based on volume or horizon
- Cross plotting of extracted attributes
- View results of crossplot in vertical seismic displays, map displays, or in VuPAK
- Manipulation of extracted volumes in the trace calculator with the ability to crossplot the results



For more information

www.ih.com

AMERICAS

M-F 8:00 AM to 6:00 PM (MT)
Tel: +1 800 447 2273
Email: CustomerCare@ih.com

EUROPE, MIDDLE EAST, AFRICA

M-F 8:00 AM to 6:00 PM (GMT)
Tel: +44 (0) 1344 328 300
Email: CustomerCare@ih.com

ASIA PACIFIC

M-F 8:00 AM to 6:00 PM (+8 GMT)
Tel: +65 6439 6000
Email: CustomerCare@ih.com

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