Velocity Calibration and Time-to-Depth Conversion

Jason® DepthMod™ is a velocity model calibration application that ensures calibrated models can be used to convert time data (inversions) to depth, which ties well tops. Part of the **Jason Workbench**, **DepthMod** can calibrate velocity functions for use in re-depthing – ensuring that depth volumes provided by clients tie wells. Designed for engineers and quantitative interpretation teams who must plan wells in depth, **DepthMod** can obtain accurate reserve estimates and well planning in depth.

Facilitate time-to-depth conversion in reservoir characterization projects

The purpose of the **Jason DepthMod** application is to calibrate velocity models to well top in depth and to perform time-to-depth (TD) conversion:

- Interactive velocity calibration and correction

- Time-to-depth conversion

- Create a TD relation and assign it to selected data files. The assigned TD relation can then be used to view the files in **Jason** Viewers in both time and depth. It also facilitates depth inversions by admitting depth inputs to selected **Jason** applications

The **DepthMod** workflow is designed to handle all the circumstances which might arise in the completion of reservoir characterization projects.

- No wells available, horizons only

- No wells available, horizons and seismic velocities only

- Horizons and wells available

- Horizons, wells, and seismic velocities available
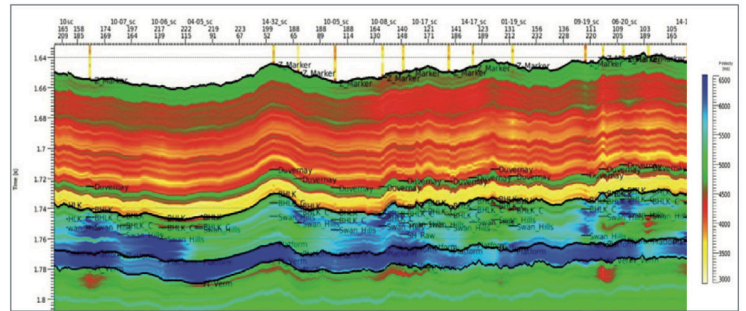
The velocity model was calibrated to ensure that depth-converted horizons tied their welt top counterparts.
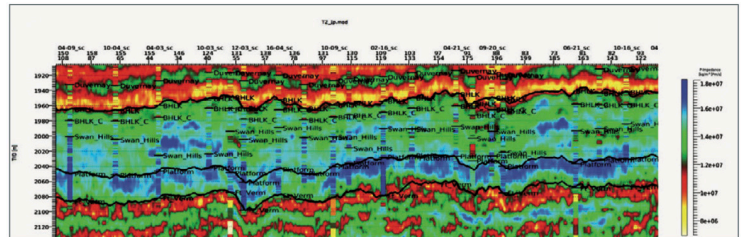

This arbitrary line through all the wells shows how the depth-converted property data ties the well logs.

The Jason Advantage

Complex, fully 3D models incorporating lateral velocity changes and faults can be used to effect accurate time-to-depth conversions about user-defined time and depth datums.

Key features

- **DepthMod** has been designed to calibrate velocity models for time-to-depth conversion and depth-to-time conversion within selected Jason applications. This makes Well Tieing, Wavelet Estimation and Inversion with depth inputs possible. A wide variety of initial data scenarios are addressed
- **DepthMod** consists of three main elements:
  - Velocity Calibration: to ensure that depth conversions from time tie well log tops in depth
  - Time <--> Depth Conversion: to convert any horizon data or any property data from time to depth or vice versa, using a calibrated velocity model
  - Creation and assignment of a TD relation to selected files or directories
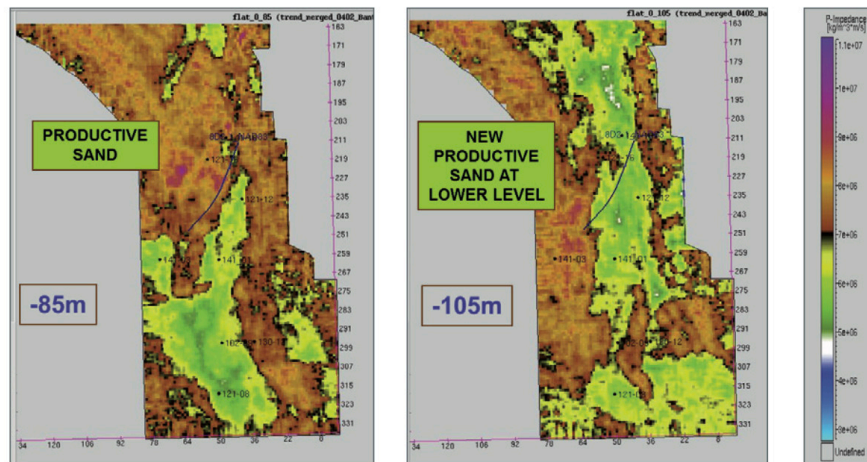
Impedance from seismic inversion was converted to depth. Two prospective sandstone intervals were defined and mapped.