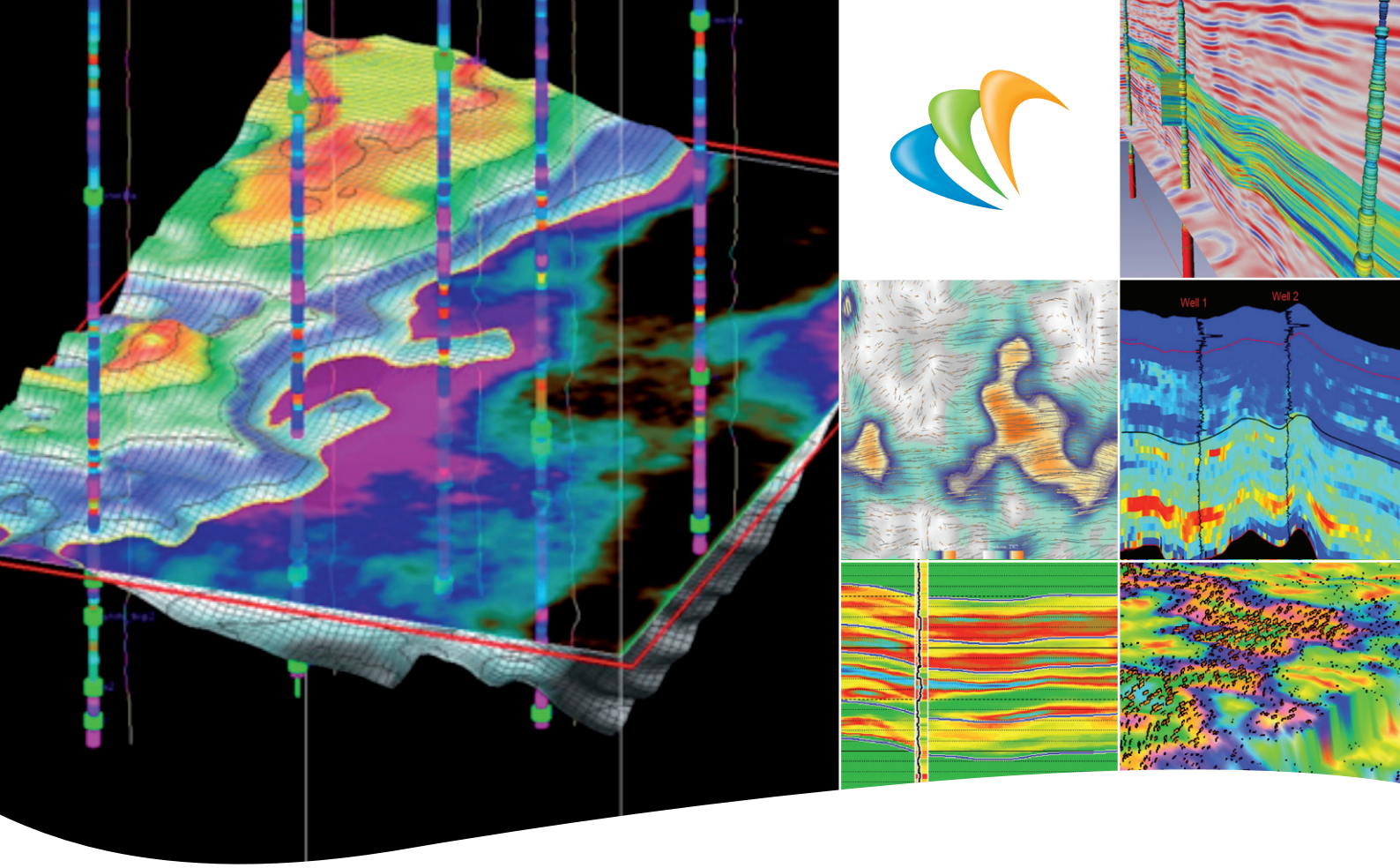


HampsonRussell

A comprehensive suite of reservoir characterization tools

cgg.com/geosoftware

CGG
GeoSoftware

HampsonRussell Software
World-class geophysical interpretation

HampsonRussell Software is a comprehensive suite of reservoir characterization tools that integrate well logs, seismic data and geophysical processes into an easily navigated intuitive package for fast results. Known for its ease of use, **HampsonRussell** makes sophisticated geophysical techniques accessible to all geophysicists.

Versatile workflows

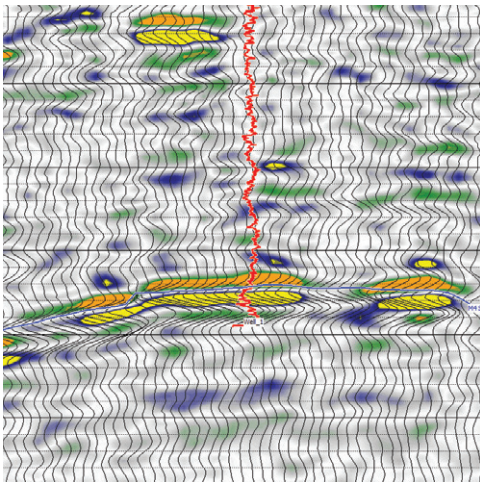
Built-in, fully customizable workflows simplify projects by guiding you through the required steps while linking parameters from one step to the next.

One **Geoview** interface has all of the functions for a reservoir characterization project. Available workflows include:

- Poststack and prestack inversion, EEI (Extended Elastic Impedance) and stochastic inversion
- AVO (Amplitude Versus Offset) modeling and analysis
- Conditioning of prestack gathers
- 4D volume matching
- Joint PP and PS inversion
- AVAz (Amplitude Versus Azimuth) analysis and modeling

AVO

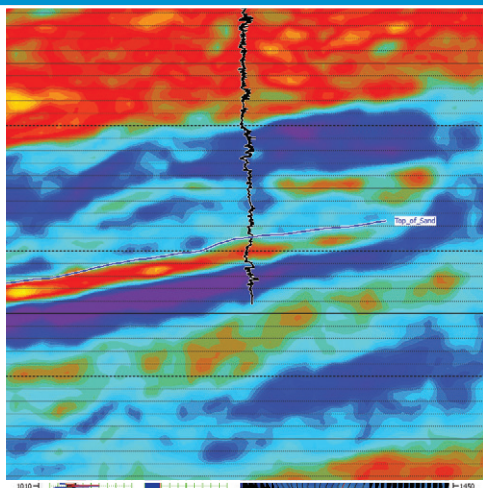
AVO performs prestack seismic analysis and reservoir reconnaissance. This module has the tools for conditioning prestack seismic data to produce optimum attribute volumes, cross-plotting and interpretation functions for locating AVO anomalies, and AVO modeling tools for calibration.



and analysis

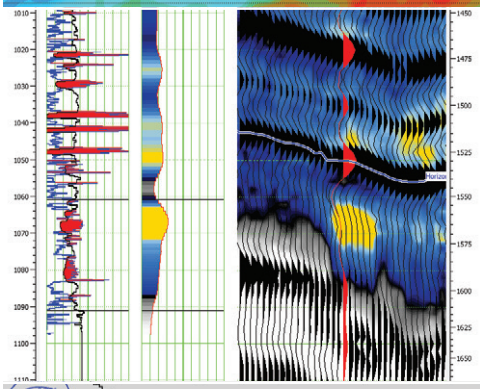
Strata

Strata performs both poststack and prestack inversions. In the conventional poststack domain, **Strata** analyzes poststack seismic volumes to produce an acoustic impedance volume. In the prestack domain, **Strata** analyzes angle gathers or angle stacks to produce volumes of acoustic impedance, shear impedance and density.



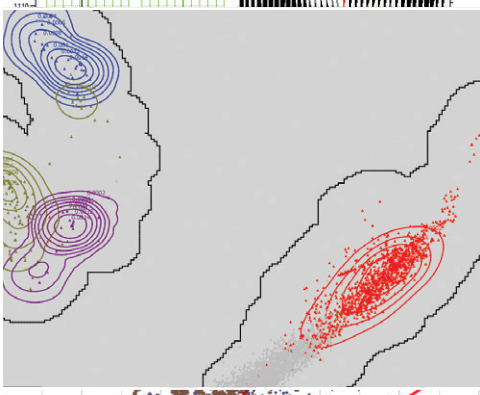
Emerge

Emerge is a geostatistical, attribute prediction module that predicts property volumes using well logs and attributes from seismic data. The predicted properties can be any available log types: such as porosity, velocity, density, gamma-ray, lithology and water saturation. **Emerge** can also be used to predict missing logs or parts of logs by leveraging existing logs that are common to the available wells.



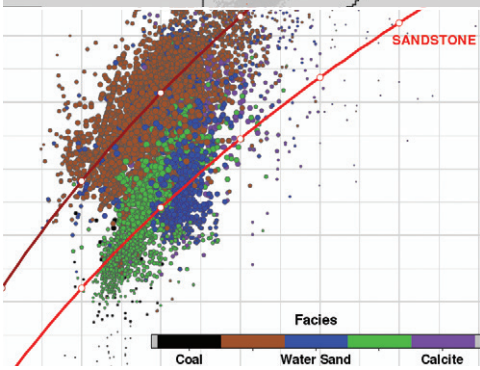
LithoSI

LithoSI quantifies uncertainty in seismic lithology and fluid prediction. Using multiple elastic parameters from the inversion of seismic data, **LithoSI** performs a supervised Bayesian classification to deliver probability cubes of predicted lithology and/or fluid properties. The integrated inversion and classification workflow provides superior definition of lithology classes and allows more accurate assessment of lithology probabilities.

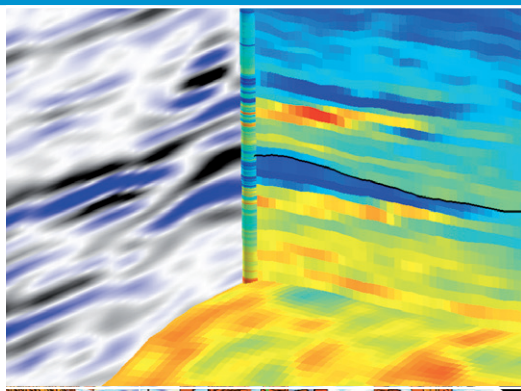


RockSI

RockSI is a powerful tool for exploring the link between rock properties and seismic data for quantitative interpretation and feasibility studies. It can create detailed Petro-Elastic Models (PEMs), calibrate them with well data, and generate 3D and 4D Rock Physics Templates which show the relationship between seismic attributes, lithology, saturation, and pressure. It also provides statistical rock physics capabilities using Monte Carlo simulation to create training sets for lithology classification when well data are sparse, or simulate the seismic signature of different production scenarios.

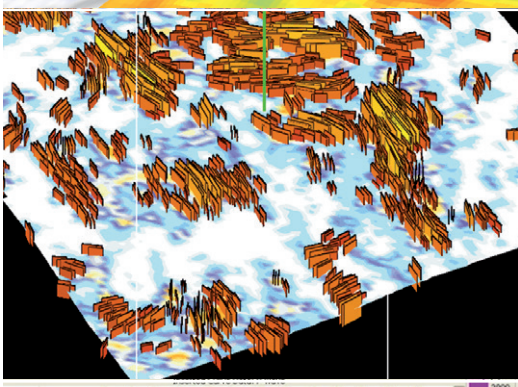


HampsonRussell Software
Accessible to every geophysicist



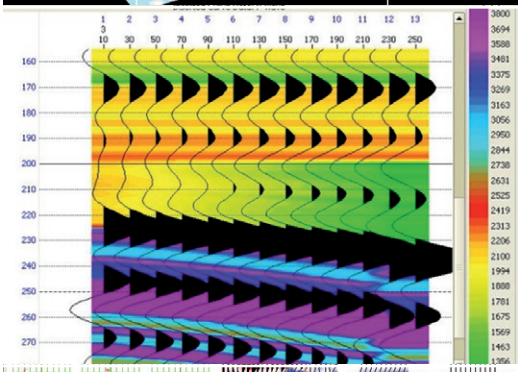
GeoSI

GeoSI is a prestack simultaneous elastic inversion that generates high-frequency stochastic models for high-resolution reservoir characterization and uncertainty analysis. It addresses the band-limited nature of deterministic inversion methods and integrates well data and seismic data at a fine scale within a stratigraphic geomodel framework.



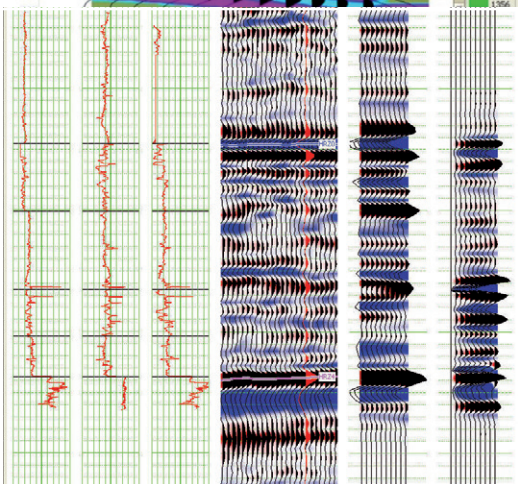
ProAZ

ProAZ maps fractures and predicts stress by observing azimuthal variations in the P-wave seismic data. Prestack azimuthally processed seismic data are analyzed in terms of time and amplitude azimuthal variations attributed to anisotropic effects.



Pro4D

Pro4D provides the needed tools for any timelapse study. The aim is to track production-related changes in the reservoir and determine areas of bypassed reserves or inefficient production. **Pro4D**'s complete suite of tools can model a whole range of anticipated reservoir scenarios, both at log and synthetic seismic scale in terms of temperature, pressure and fluid saturations.

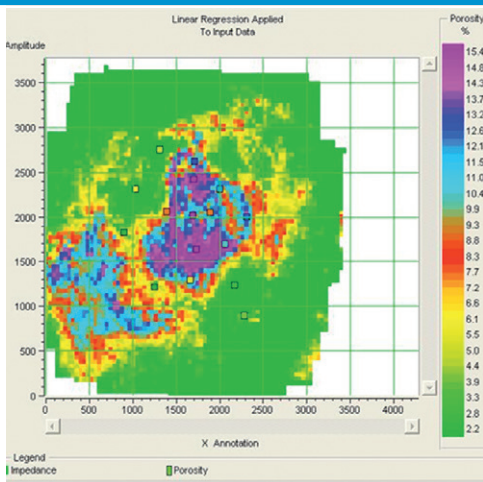


ProMC

ProMC allows consistent interpretation of multicomponent data. It addresses the challenges of differences in event times, frequencies and reflectivity between PP and PS seismic volumes. The easy-to-use and intuitive work environment offers interpreters the ability to handle the increased number of seismic and attribute volumes inherent in a multicomponent project.

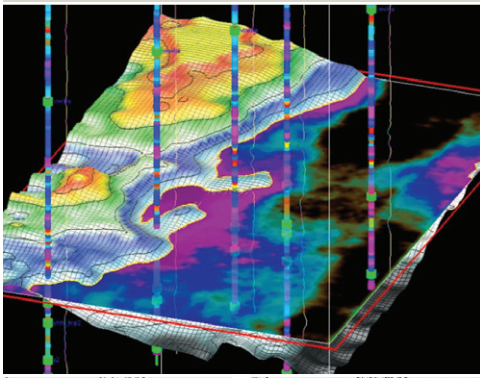
MapPredict

MapPredict generates maps using both sparse data measured at isolated wellbores and dense data measured on a survey grid. It is a comprehensive, easy-to-use, map-based geostatistical software that integrates datasets into accurate, detailed maps.



Geoview

Geoview provides the power to visualize, interpret and manage seismic reservoir characterization projects easily and efficiently. Seamless visualization and interpretation functionality offers the ability to understand the reservoir complexity, while single window integration and data management tools make **Geoview** fast and easy to use.

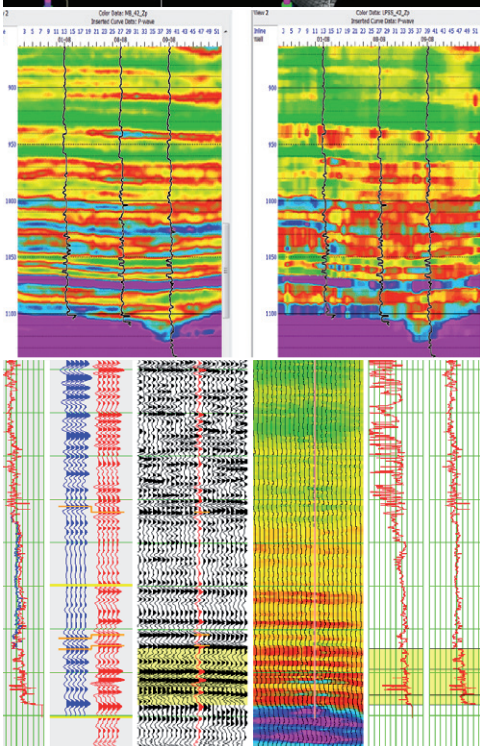


Seismic

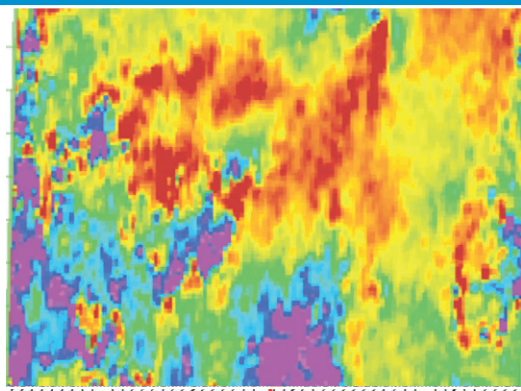
This key product prepares and manages seismic data for use in seismic inversion, AVO analysis, reservoir characterization and visualization. Seismic editing is fundamental to the successful outcome of any analytical project.

Log

Prepare, create, or transform well log data for input into other petrophysical and modeling software. **Log** editing is fundamental to well data analysis and an integral step for the success of all projects requiring log data.

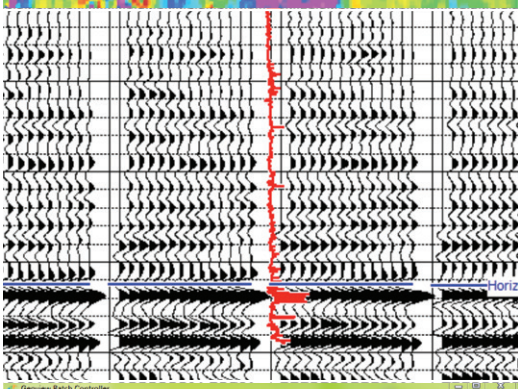


HampsonRussell Software
Intuitive and interactive



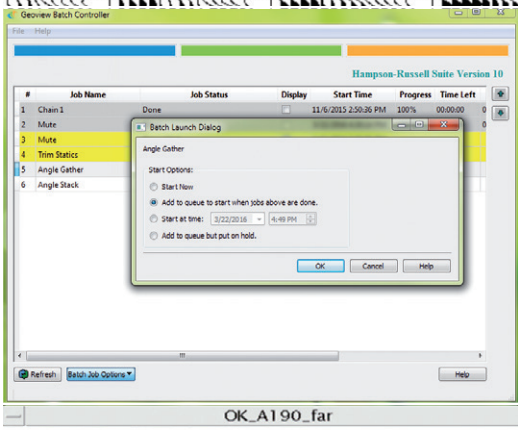
Attributes

Attributes is designed to create and extract collections of advanced, multi-trace seismic attributes. These enhance the ability of seismic interpreters to analyse frequency content, reduce noise and detect fractures and other discontinuous features in seismic volumes. Single-trace attributes are available in other **HampsonRussell** products.



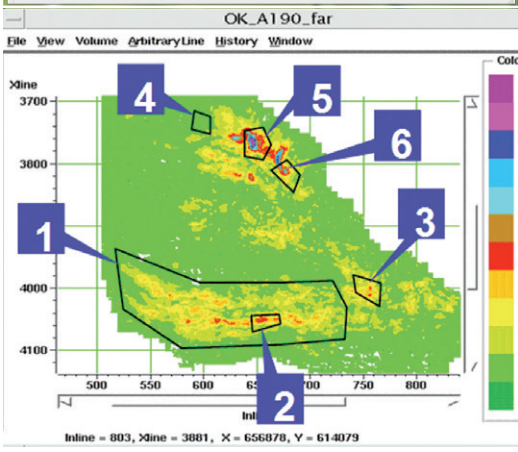
Gather Conditioning

This specialized set of applications improves the signal-to-noise ratio and alignment of CDP gather data in preparation for any prestack analysis process such as AVO or simultaneous inversion.



Batch Processing

Batch Processing makes use of computing power outside of normal working hours and increases efficiency by scheduling large jobs to run in the evenings or weekends.



AVO Fluid Inversion (AFI)

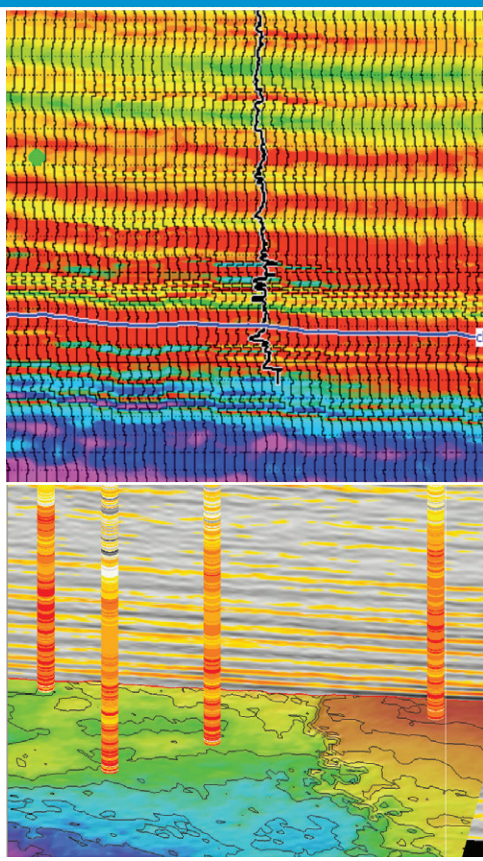
AVO Fluid Inversion (AFI) estimates uncertainty in fluid predictions from AVO. **AFI** uses Biot-Gassmann fluid substitution, Monte Carlo simulation and Bayesian estimation to build fluid probability maps. These maps help in quantitative analysis of the probability of exploration success.

Additional 12 Threads

Additional 12 Threads increases project efficiency and the performance of computationally expensive processes. This license can add 12 additional threads beyond the 12 that the software already accesses. Estimate the optimal number of threads to use when running a process for the best hardware performance.

Advanced 3D Viewer

Advanced 3D Viewer is an add-on utility that interactively displays results from our **GeoSI**, **LithoSI**, **ProAZ** and **Attributes** packages.



Training and Support

HampsonRussell software provides technical support and training through a global network of offices. We offer public workshops and custom in-house training based on your ongoing projects. We provide support and training to help you get the most from your geophysical data. Whether your goals are prospect ranking, field development or maximizing recovery from mature or unconventional reservoirs, **HampsonRussell software** offers a unique combination of technology and expertise.

CGG GeoSoftware

CGG GeoSoftware provides the industry's preferred comprehensive set of software products and support for E&P multi-disciplinary teamwork. High-end, cross-product workflows enable a better understanding of reservoir properties and how they evolve through the life of the field. GeoSoftware helps reduce reservoir risk and uncertainty in seismic reservoir characterization, velocity modeling, advanced interpretation, petrophysics, rock physics, AVO and geological modeling. The GeoSoftware portfolio includes **HampsonRussell**, **Jason**, **InsightEarth**, **PowerLog**, **EarthModel FT** and **VelPro**.

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