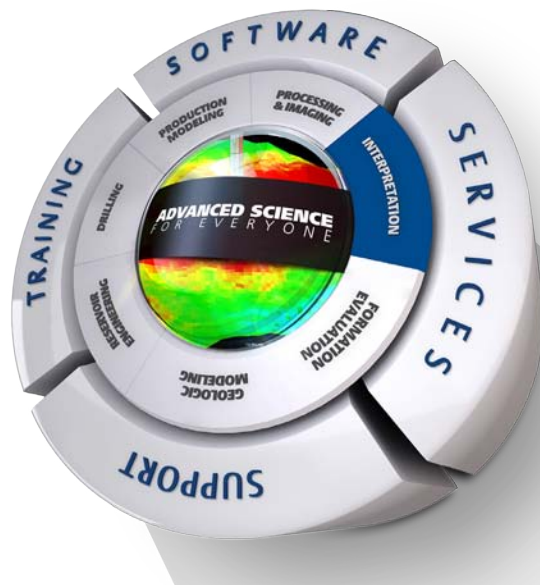# StratEarth
Well Log Correlation and Sectioning

Redefining Geological Interpretation

Geological interpretation requires increasing levels of integration with production, engineering and seismic information. Success is tied not only to interpretation and correlation, but also to how the information can be used to improve 3D reservoir characterization, well planning and geosteering, and development planning.

Paradigm™ StratEarth™ delivers on all these demands: It leverages the flexibility of the Epos™ infrastructure to rapidly access and combine well, seismic and other data from multiple repositories. Asset teams can share a common multi-user Epos project, experiencing real time updates between the geophysicist and geologist, for increased efficiency and reduced data management effort.

An Optimized Design

StratEarth offers a suite of comprehensive tools for correlating, interpreting, mapping, displaying and performing QC of seismic, geologic, production and reservoir modeling data in multiple 2D and 3D environments.

Users may perform multi-scenario interpretation of markers, lithology, seismic data and stratigraphy; rapidly correlate hundreds of wells; and define their depositional environments. Automatic mapping is integrated into the correlation window. Elevation, thickness, and net-to-gross maps are created on-the-fly as markers are interpreted and edited, providing enhanced productivity and usability. Correlations can be made in 2D or 3D, by ghosting one or more curves and by drag-and-drop of multiple markers.

Co-visualization Capabilities

StratEarth has advanced co-visualization capabilities, provided through its live connection between seismic, interpretation and petrophysical data. Data can be displayed in many tracks, including log, interval, seismic, well zone, blocked log from reservoir models, chrono-stratigraphic, image and schematic. The tracks can be used inside a cross-section or well section, or displayed in 3D. Sections can be displayed in measured depth, depth, true vertical thickness, and true stratigraphic thickness, and flattened on multiple markers.
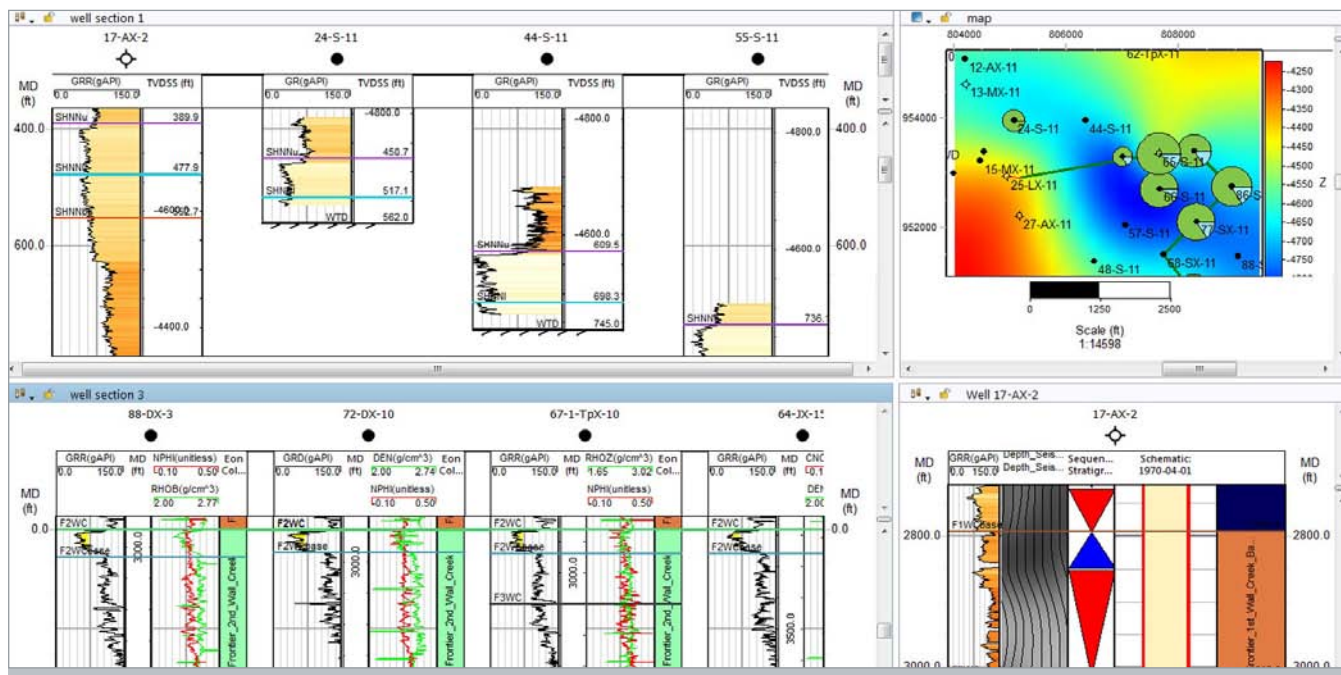
▲ Well correlations with associated oil production bubbles and a Type Well display

EMERSON™

StratEarth

Seismic data may be extracted on-the-fly at the section or in the vicinity of the well location. StratEarth includes the display of time-dependent engineering data such as production, perforation and completions for QC vis-a-vis geo-cellular reservoir models.

Advanced Data Analysis Utilities

A broad set of data analysis utilities is available for extended interpretation and net-to-gross-map creation, including crossplots and histograms, property computations, data filtering, zone identification, scripting and litho-facies calculations. Multi-rank interpretation is enabled via a nested stratigraphic column. If a marker's position is uncertain, its presence can be estimated by placing it between two markers without an exact location.
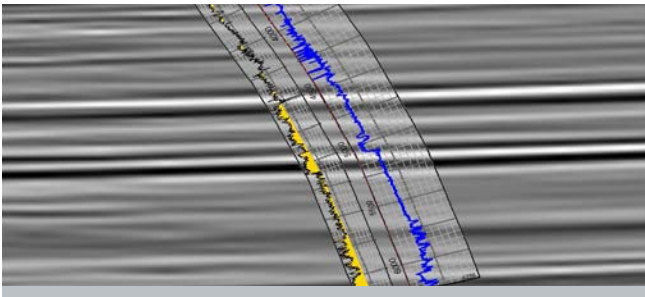
▲ Co-visualization of projected wells and seismic data
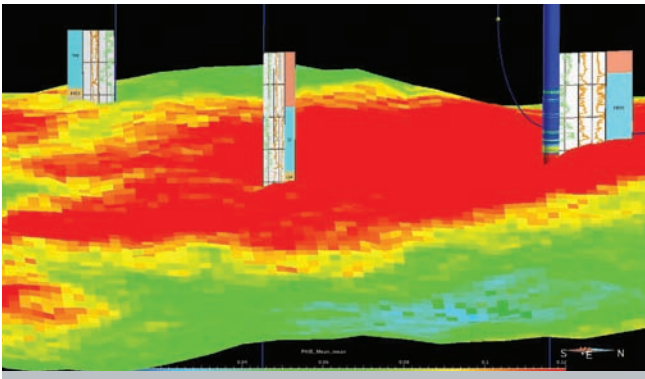
▲ 3D correlation in StratEarth
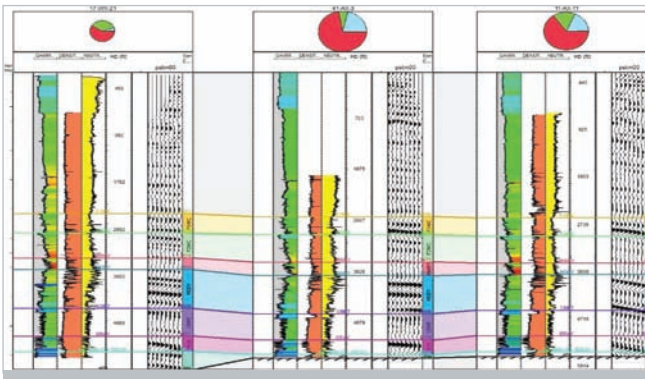
▲ Log display together with seismic, production data and correlation

Features

- Correlation via ghosting
- Cross-section creation and display
- Well log data display
- Automatic mapping
- Multi-scenario correlation interpretation
- Multi-rank stratigraphic interpretation
- Data analysis tools
- Integration of production data into log display and maps
- Integration with SKUA™, Geolog™ and SeisEarth™

Interoperability

All Epos™-based applications enable interoperability with third-party data stores, including:

- RESQML 2.0.1
- OpenWorks® R5000.10
- GeoFrame® 2012
- Petrel * 2017 & 2016
- Recall™ 5.4.2

(* a mark of Schlumberger)

System specifications

- 64-bit Red Hat® Enterprise Linux® 6.8 and subsequent minor releases, and 7.1 and subsequent minor releases
- Microsoft® Windows® 7, 8.1

The Paradigm Advantage

- Accelerates the interpretation and validation process using automatic correlation and map making.
- Improves correlation through 2D and 3D seismic and geologic data co-visualization.
- Validates coherency between interpretation and reservoir models through data integration.
- Captures uncertainty via multi-scenario and interpretation of "fuzzy" well markers.