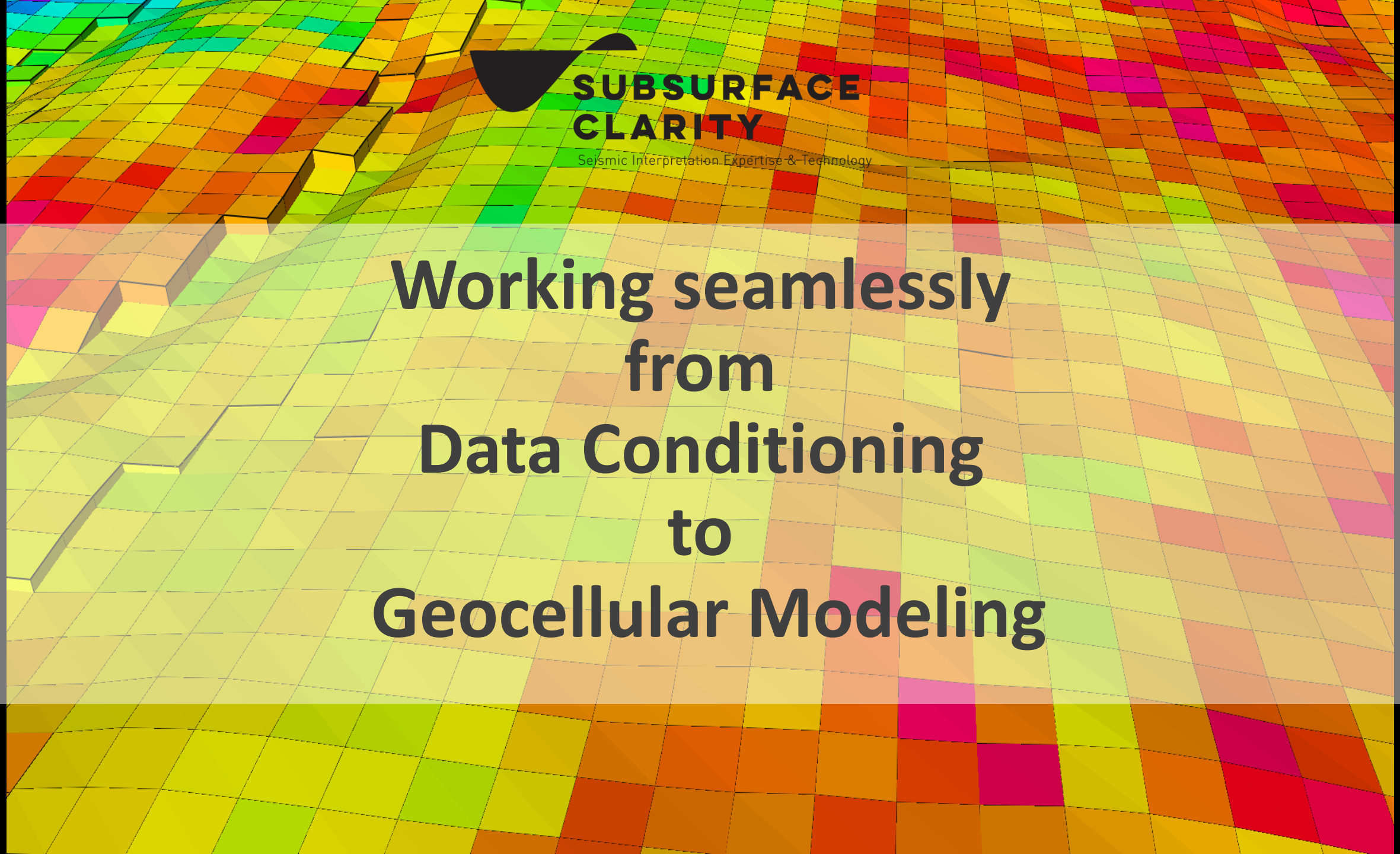


Working seamlessly from Data Conditioning to Geocellular Modeling

SUBSURFACE CLARITY

Clients and Projects

ADVANCE ENERGY PARTNERS

Apache
EXPLORING WHAT'S POSSIBLE

GUIDON ENERGY

LAREDO PETROLEUM, INC.

PIONEER NATURAL RESOURCES

SM ENERGY

TRANSATLANTIC Petroleum Ltd.

VICTERRA

SUBSURFACE CLARITY

Knowledge, Skills and Multi-disciplinary Integration

Geology

Outcrops, Cores
Surface geology
Well-logs
Structure & tectonics
Sedimentology
Stratigraphy
Subsidence history
Depositional models
Source rock analysis
Reservoir parameters
Production data
Horizons, Faults
Seismic attributes
Seismic facies
Geostatistics
Neural Networks

Geophysics

Horizons, Faults
Seismic attributes
Seismic facies
Geostatistics
Neural Networks
AVO/AVA
Rock physics
Rock mechanics
Post-stack inversion
Pre-stack inversion
Vp, Vs, ρ, λ, μ
Bulk modulus, K
Young's modulus, E
Poisson's ration, σ
PI, SI, EEI, ψ

Petrophysics

Mineral models
Lithofacies
Rock physics
Rock mechanics
Vp, Vs
λ, μ, rho
Bulk modulus, K
Young's modulus, E
Poisson's ration, σ
TOC, Pressure, Temp
Fracture gradients
Sw, Sw(irr), Øt, Øeff, κ, η

Basin models

Static Reservoir Models

Dynamic Reservoir Models

SUBSURFACE CLARITY

Technology

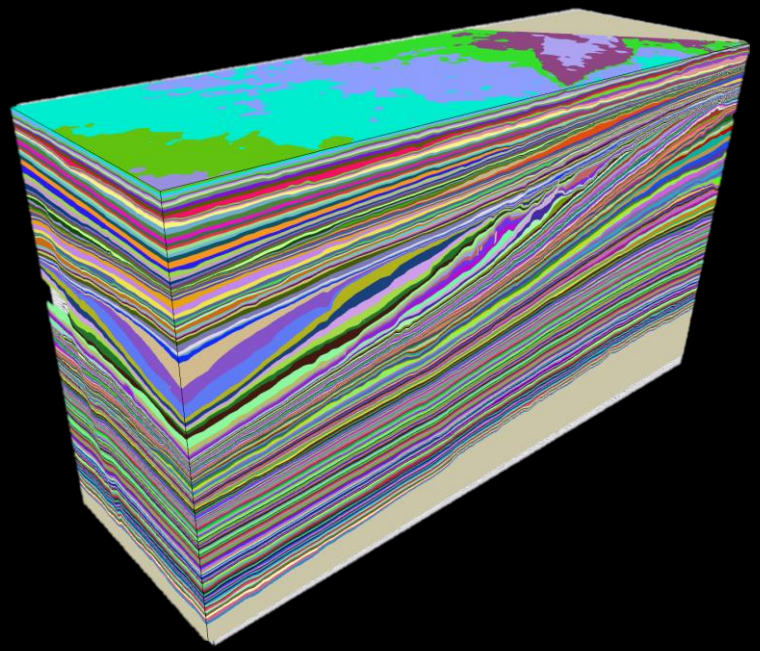
The PaleoScan suite, together with tools available in GeoTeric, allow us to move traditional data sets seamlessly through:

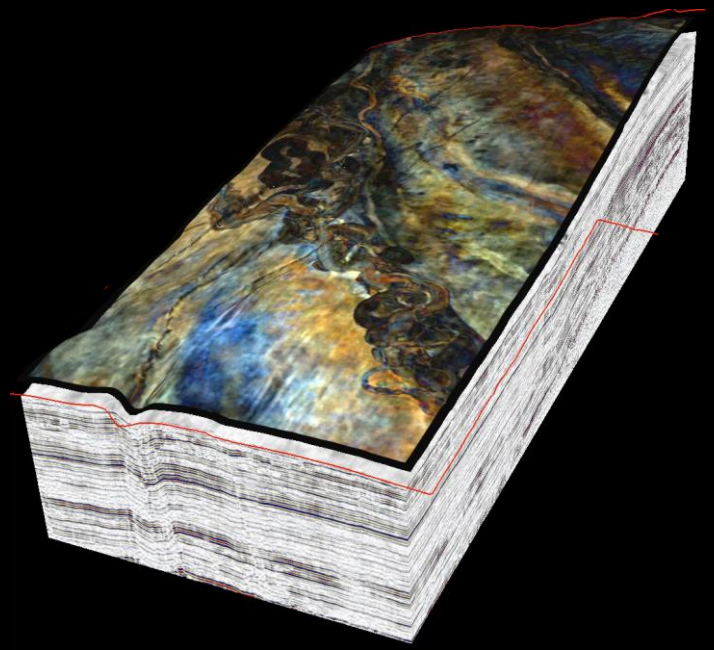
PRE-CONDITIONING
STRATIGRAPHIC INTERPRETATION
WELL ANALYSIS
SEQUENCE ANALYSIS
STRUCTURAL INTERPRETATION
FACIES INTERPRETATION
3D PROPERTY MODELING
STATIC GEOCELLULAR MODELS

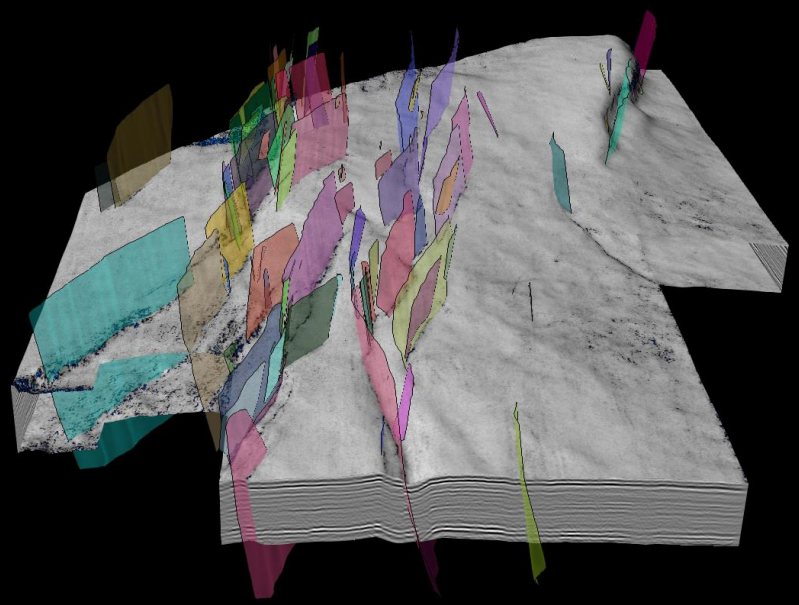
PaleoScan

geoteric

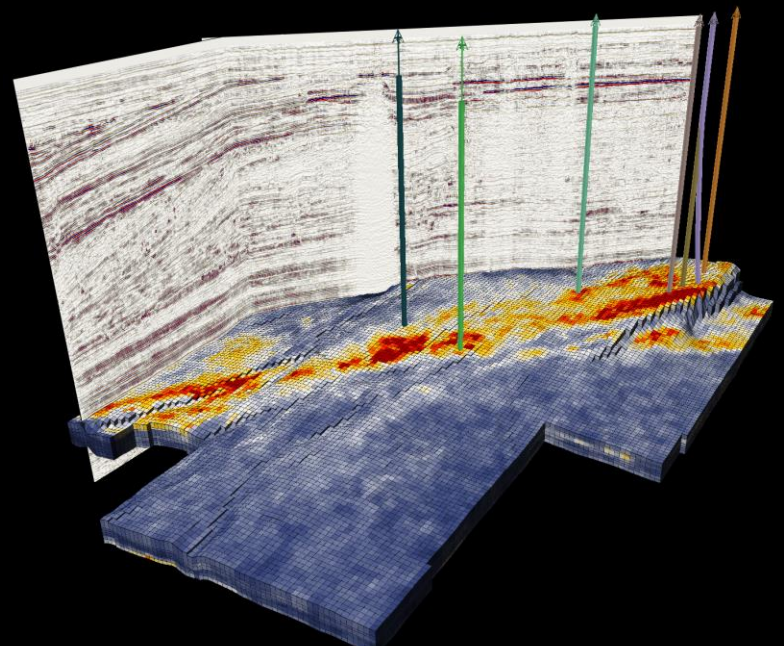
Well-log based 3D Property Models, guided by seismic data volumes and supported by cross-plot analysis, open up a spectrum of integrated workflows to the team.

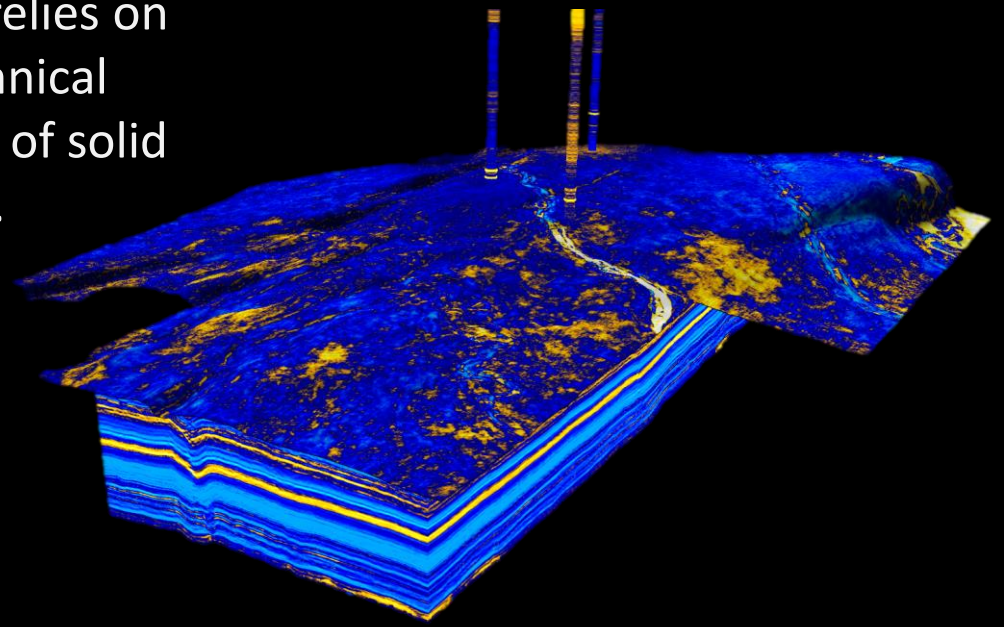






Efficient subsurface analysis relies on integrated workflows, technical expertise and the application of solid geoscience principles.





SUBSURFACE CLARITY

Volume Interpretation Workflows

PRE-CONDITIONING

STRATIGRAPHIC INTERPRETATION

STRUCTURAL INTERPRETATION

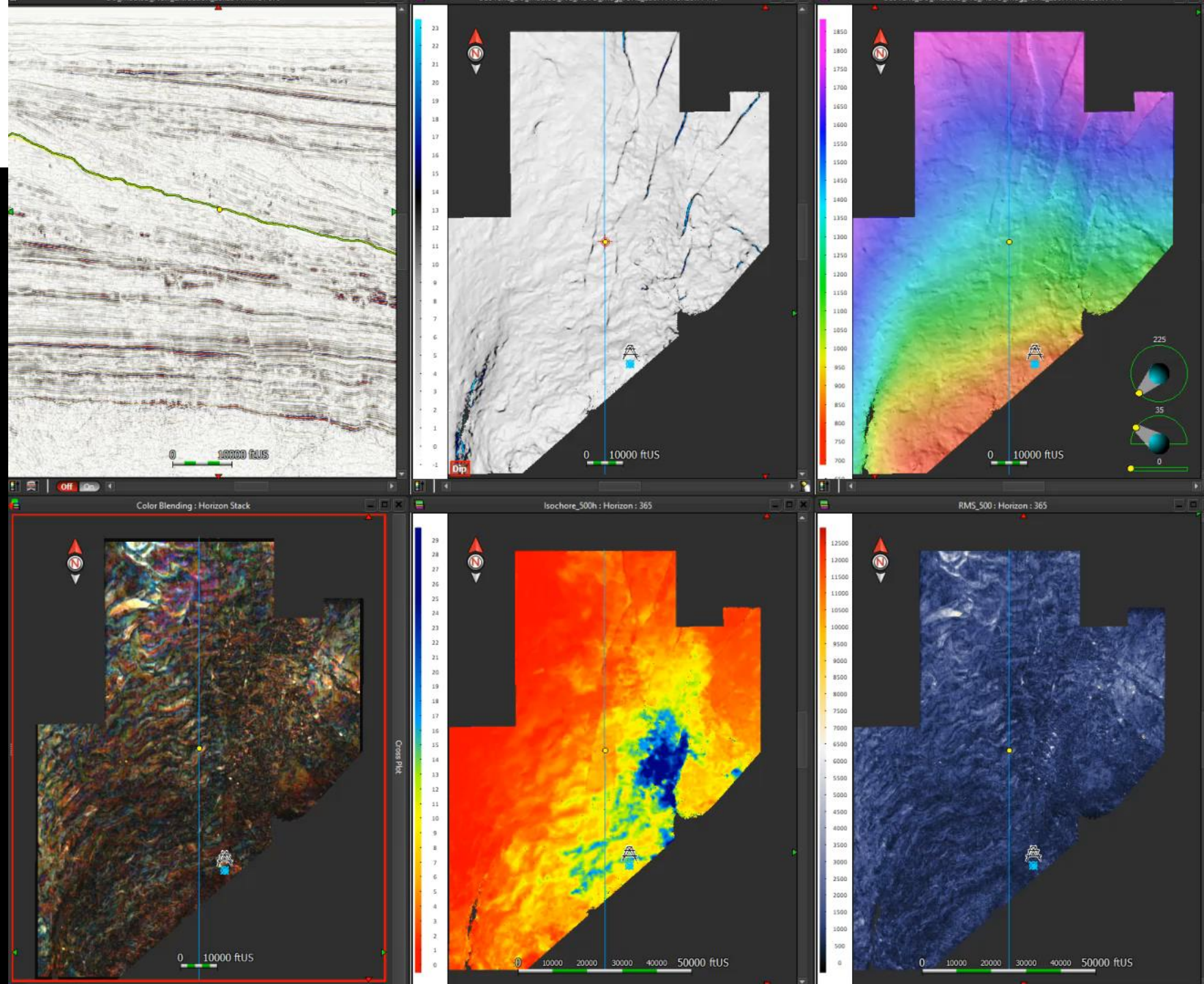
SEQUENCE ANALYSIS

FACIES INTERPRETATION

WELL ANALYSIS & CROSS PLOTS

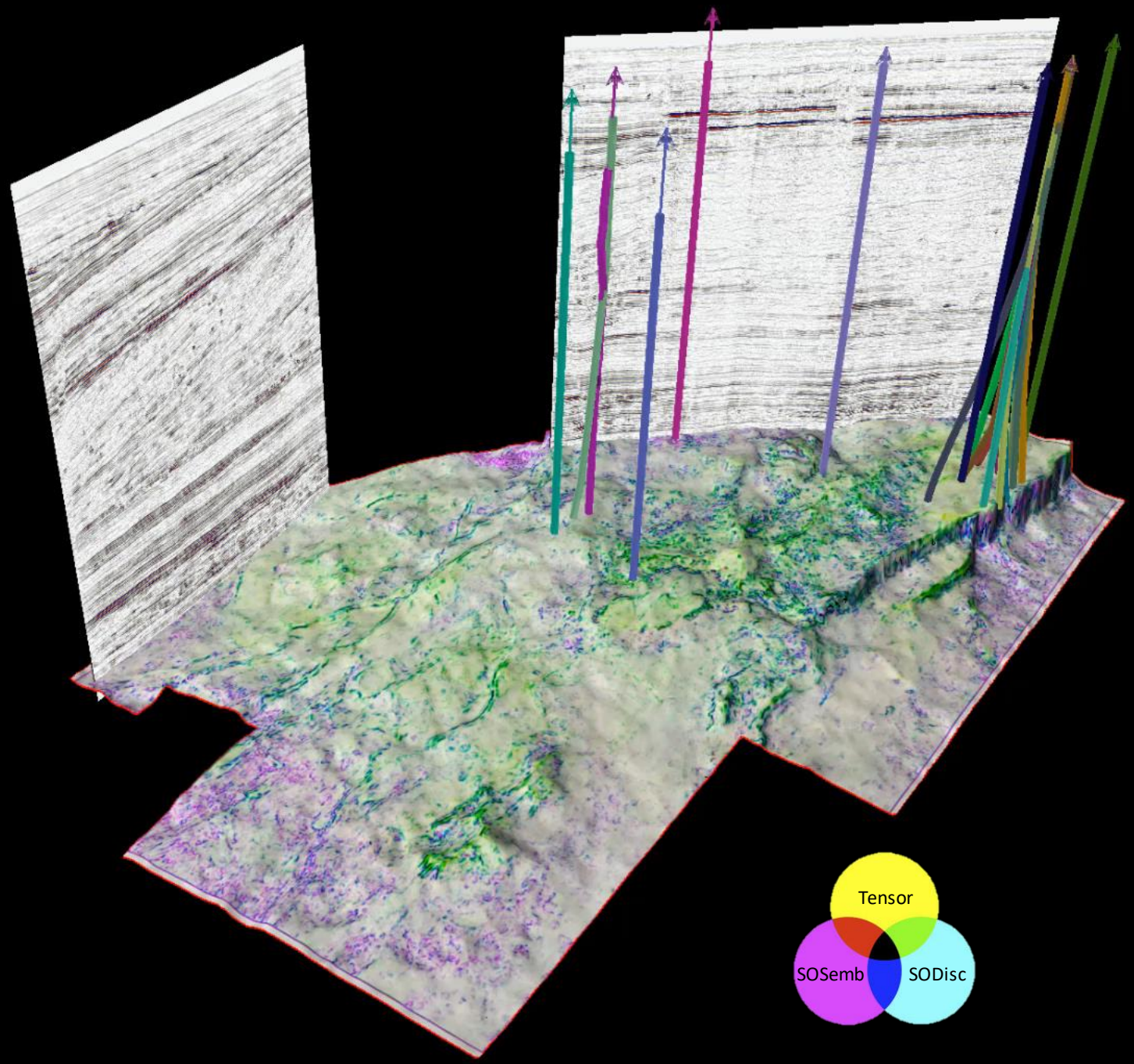
3D PROPERTY MODELING

STATIC GEOCELLULAR MODELS



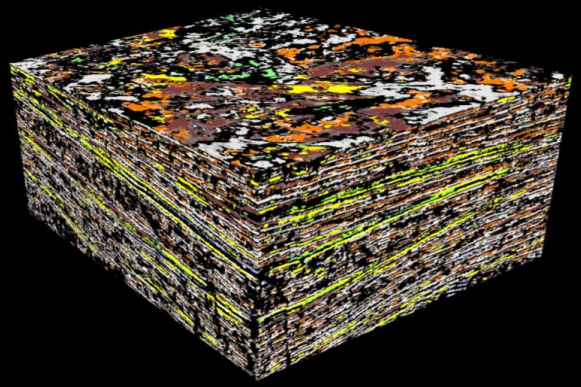
Volume Interpretation Workflows

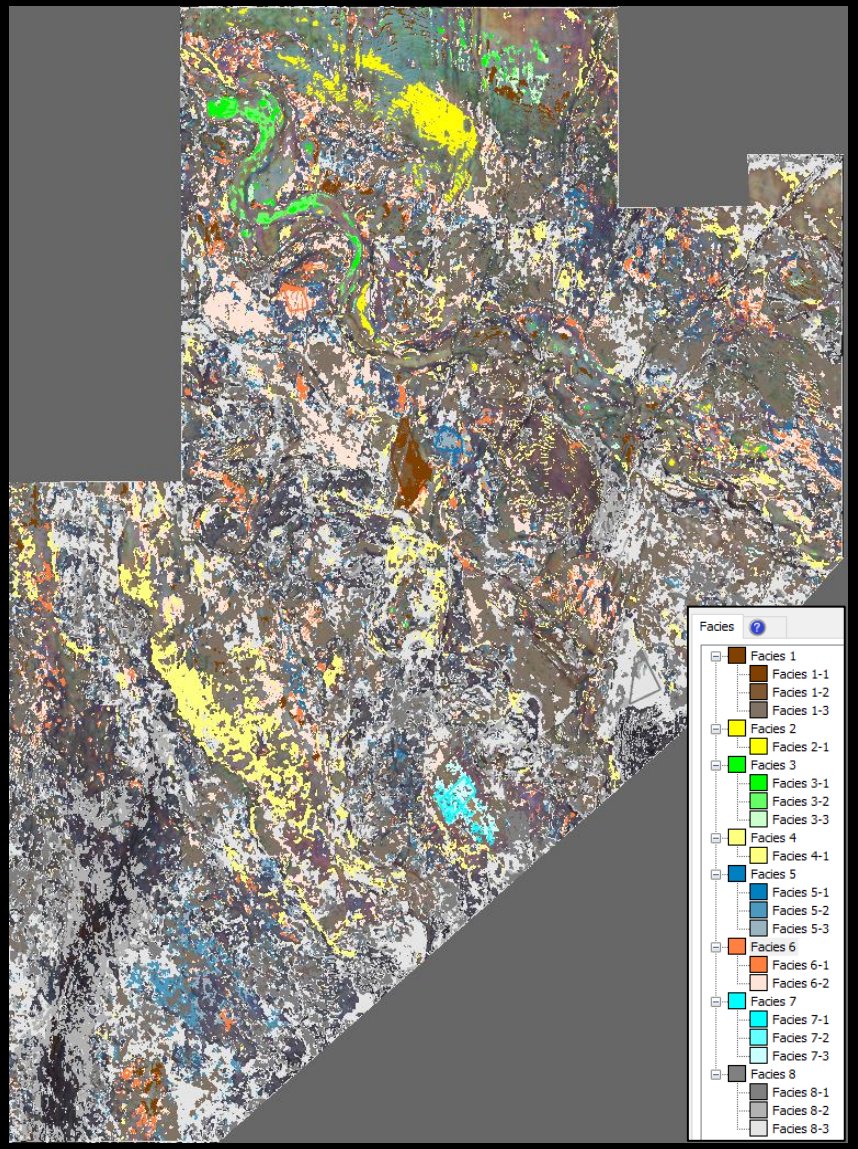
PRE-CONDITIONING
STRATIGRAPHIC INTERPRETATION
STRUCTURAL INTERPRETATION
SEQUENCE ANALYSIS
FACIES INTERPRETATION
WELL ANALYSIS & CROSS PLOTS
3D PROPERTY MODELING
STATIC GEOCELLULAR MODELS

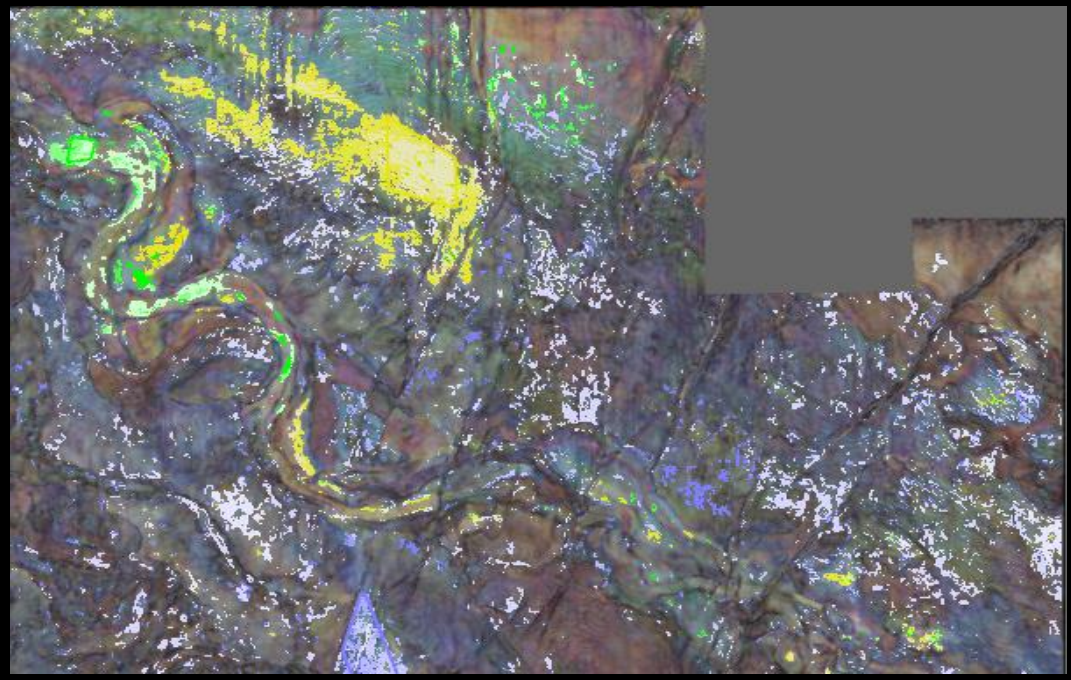


Volume Interpretation Workflows

PRE-CONDITIONING
STRATIGRAPHIC INTERPRETATION
STRUCTURAL INTERPRETATION
SEQUENCE ANALYSIS
FACIES INTERPRETATION
WELL ANALYSIS & CROSS PLOTS
3D PROPERTY MODELING
STATIC GEOCELLULAR MODELS







Interpolation options: inverse distance, kriging and co-kriging

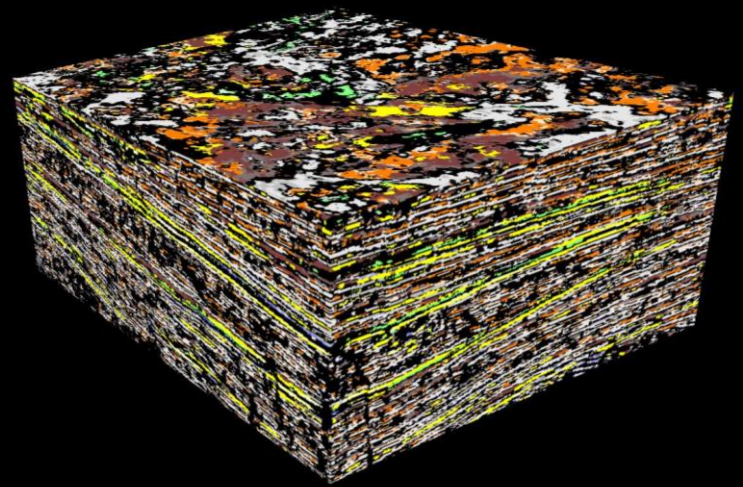
Cokriging with seismic facies volume

Volume Interpretation Workflows

PRE-CONDITIONING
STRATIGRAPHIC INTERPRETATION
STRUCTURAL INTERPRETATION
SEQUENCE ANALYSIS
FACIES INTERPRETATION
WELL ANALYSIS & CROSS PLOTS
3D PROPERTY MODELING
STATIC GEOCELLULAR MODELS

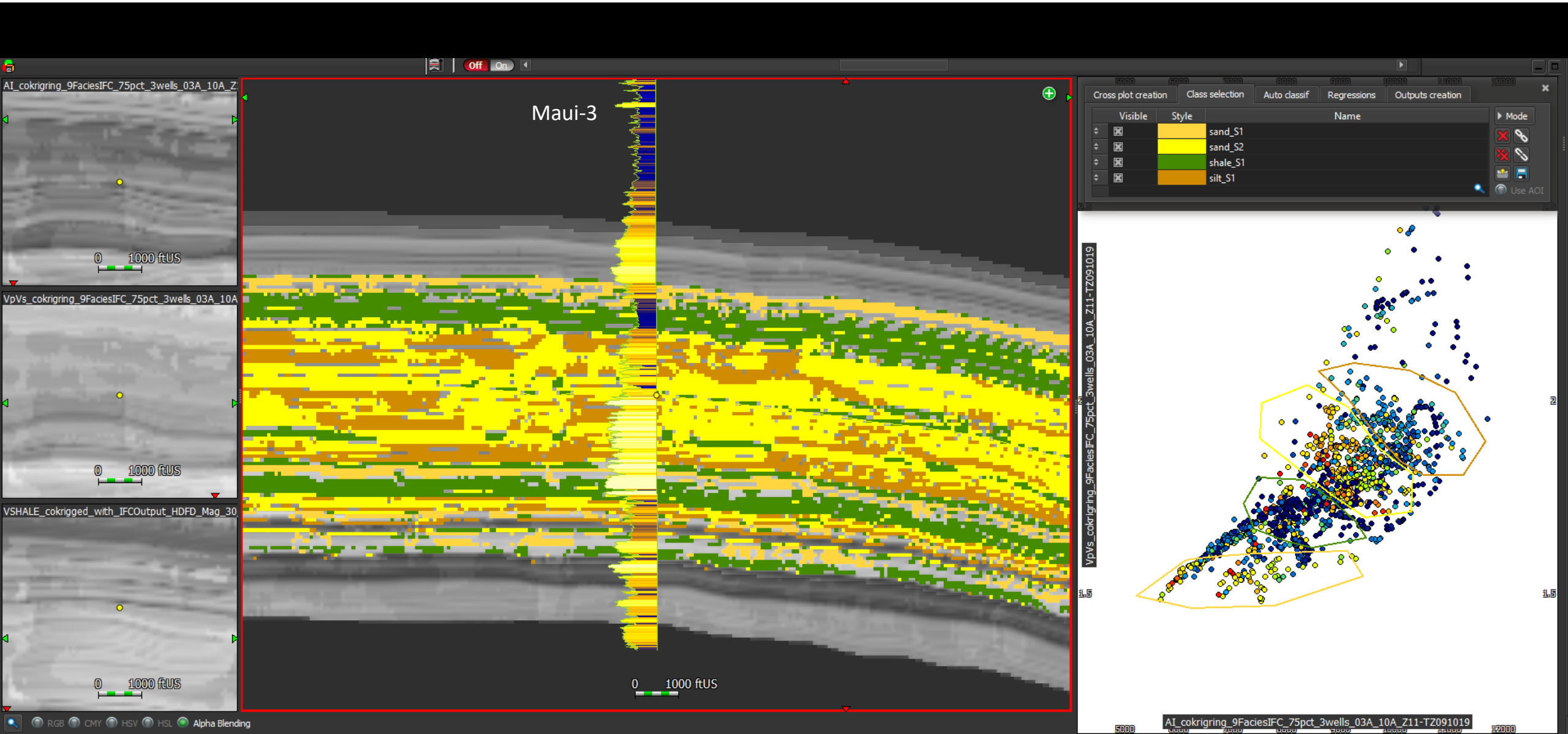
Inverse distance

Seismic facies volume



SUBSURFACE CLARITY

Lithofacies volumes can also be classified based on volume cross plots

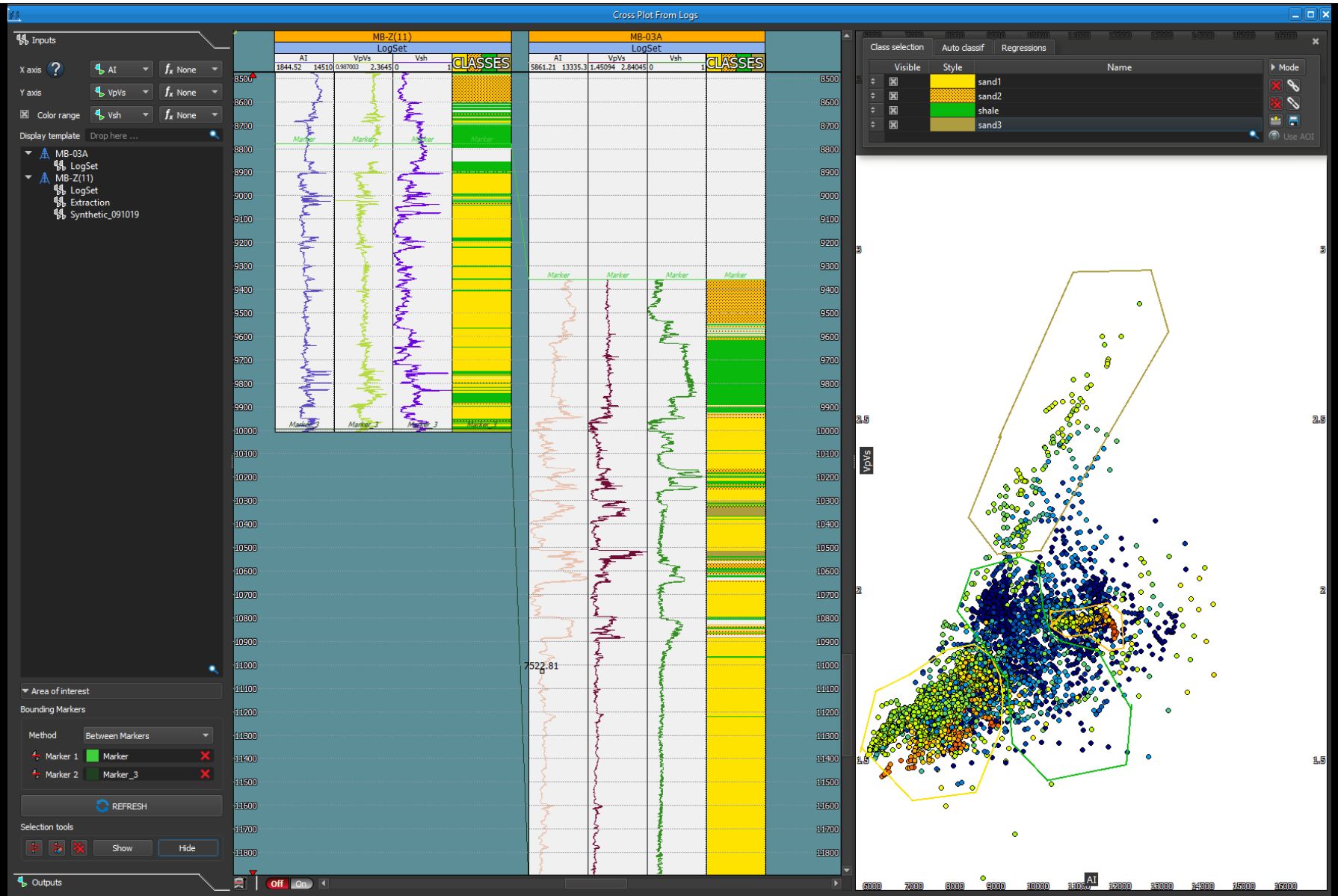


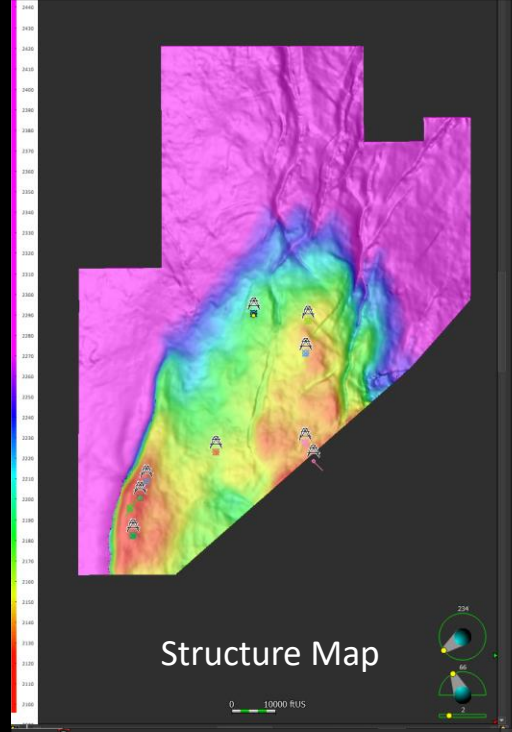
SUBSURFACE CLARITY

Lithofacies are defined based on well-log cross plots of Vp/Vs and AI using the wells MB-03A and MB-Z(11)

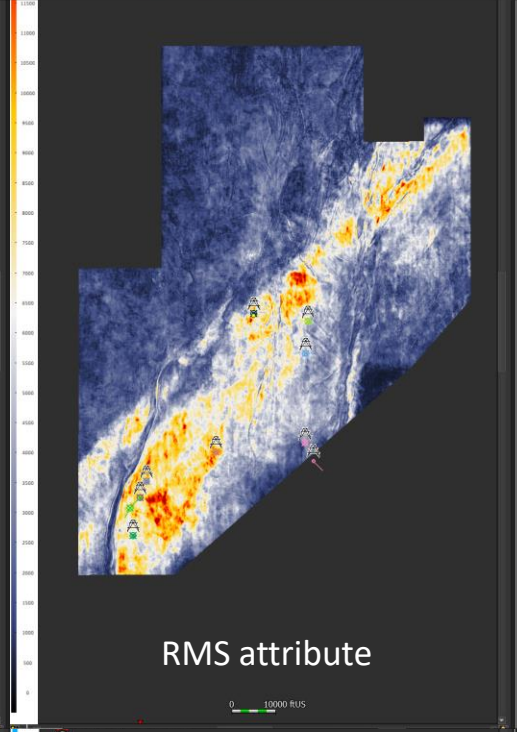
Volume Interpretation Workflows

PRE-CONDITIONING
STRATIGRAPHIC INTERPRETATION
STRUCTURAL INTERPRETATION
SEQUENCE ANALYSIS
FACIES INTERPRETATION
WELL ANALYSIS & CROSS PLOTS
3D PROPERTY MODELING
STATIC GEOCELLULAR MODELS

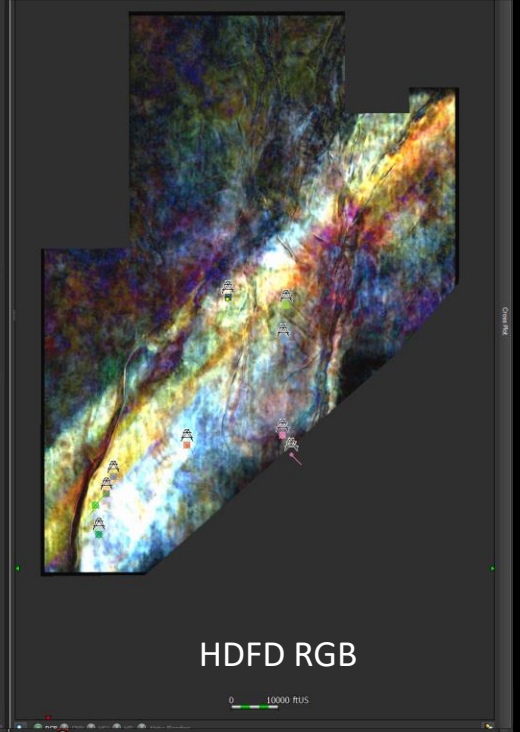




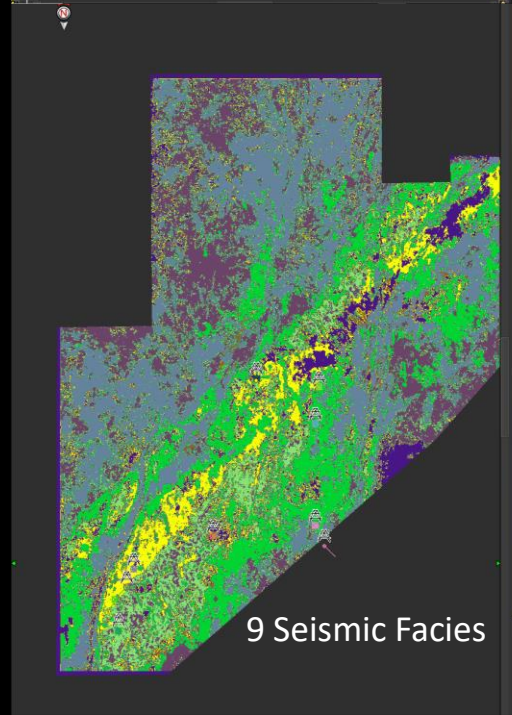
Structure Map



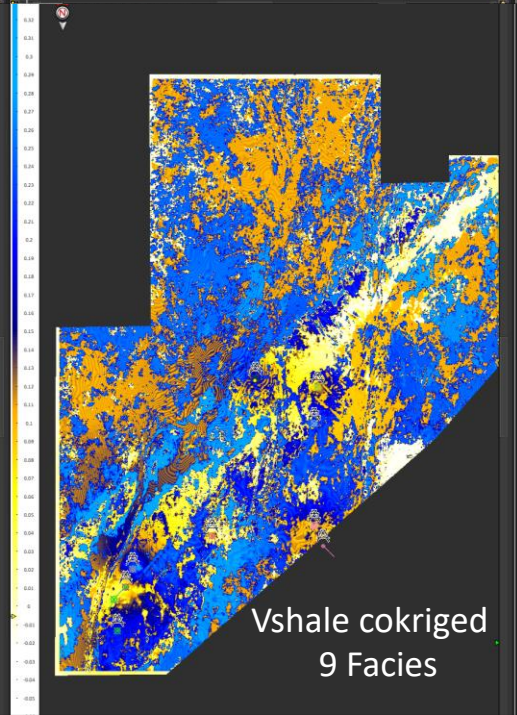
RMS attribute



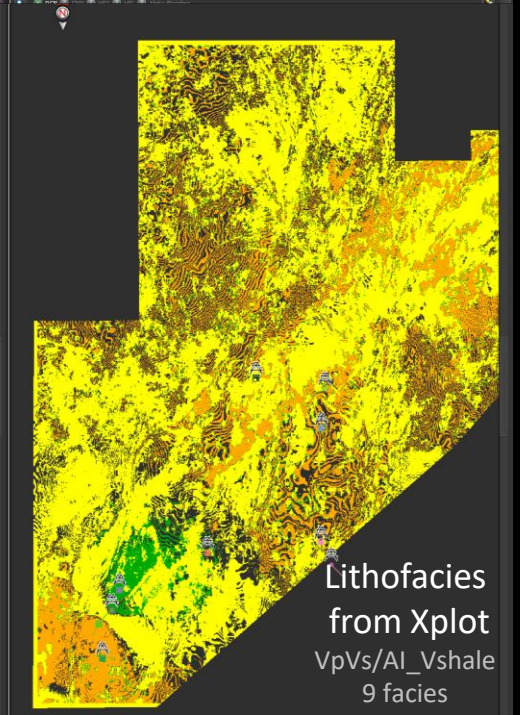
HDFD RGB



9 Seismic Facies



Vshale cokriged
9 Facies



Lithofacies
from Xplot
VpVs/AI_Vshale
9 facies

The PaleoScan suite, together with tools available in GeoTeric, allow us to move traditional data sets seamlessly through:

PRE-CONDITIONING
STRATIGRAPHIC INTERPRETATION
WELL ANALYSIS
SEQUENCE ANALYSIS
STRUCTURAL INTERPRETATION
FACIES INTERPRETATION
3D PROPERTY MODELING
STATIC GEOCELLULAR MODELS

Well-log based 3D Property Models, guided by seismic data volumes and supported by cross-plot analysis, open up a spectrum of integrated workflows to the interpretation team.

SUBSURFACE CLARITY

Knowledge, Skills and Multi-disciplinary Integration

Geology

Outcrops, Cores
Surface geology
Well-logs
Structure & tectonics
Sedimentology
Stratigraphy
Subsidence history
Depositional models
Source rock analysis
Reservoir parameters
Production data
Horizons, Faults
Seismic attributes
Seismic facies
Geostatistics
Neural Networks

Geophysics

Horizons, Faults
Seismic attributes
Seismic facies
Geostatistics
Neural Networks
AVO/AVA
Rock physics
Rock mechanics
Post-stack inversion
Pre-stack inversion
Vp, Vs, ρ, λ, μ
Bulk modulus, K
Young's modulus, E
Poisson's ration, σ
PI, SI, EEI, ψ

Petrophysics

Mineral models
Lithofacies
Rock physics
Rock mechanics
Vp, Vs
λ, μ, rho
Bulk modulus, K
Young's modulus, E
Poisson's ration, σ
TOC, Pressure, Temp
Fracture gradients
Sw, Sw(irr), Øt, Øeff, κ, η

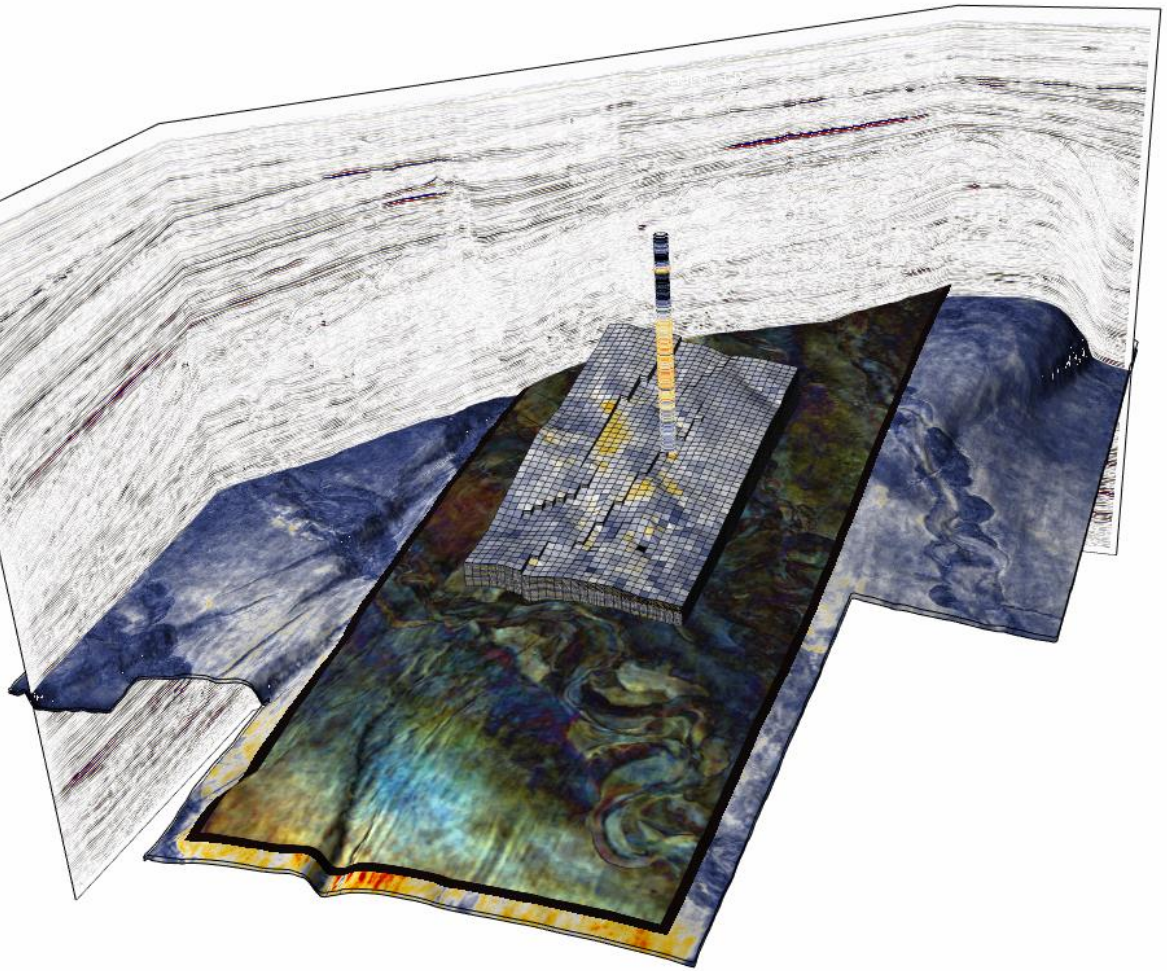
Basin models

Static Reservoir Models

Dynamic Reservoir Models

SUBSURFACE CLARITY

The Power of Seamless Integration



EARTH RESOURCES ALLIANCE

Era

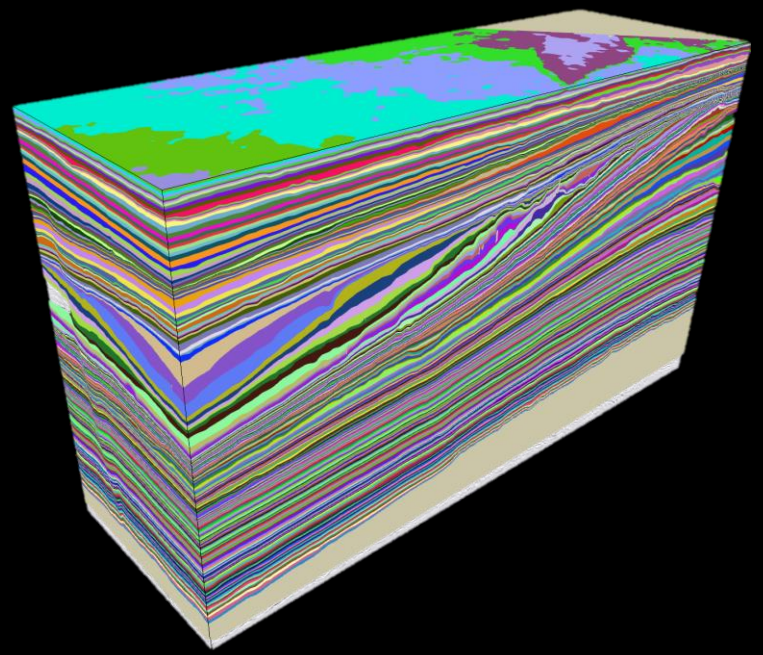
Earth Resources Alliance (Era), formally launched in August 2022, provides our clients with access to an extremely powerful technical team with the expanded ability to take projects, seamlessly, **from 3D data conditioning through integrated 3D volume interpretation, including seismic QI, all the way to dynamic reservoir models**.

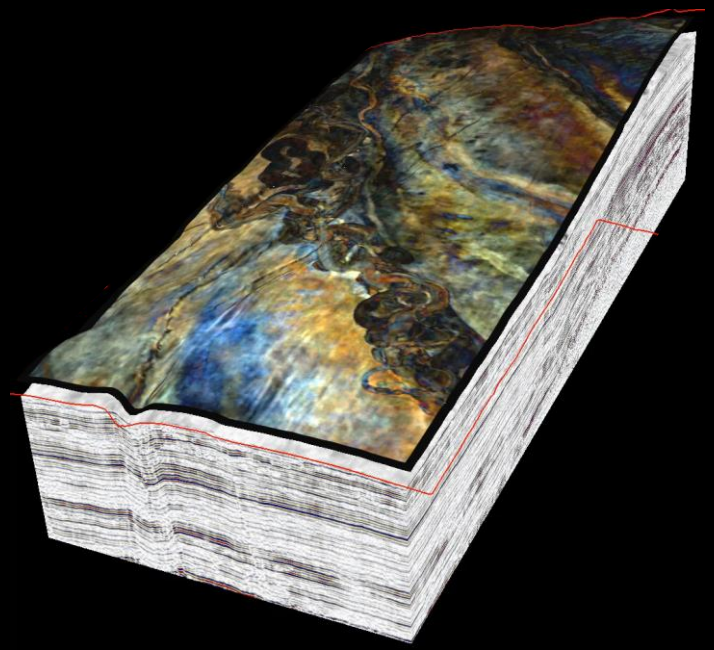
Era combines the technical know-how and expertise of 4 consulting companies, i.e., **Subsurface Clarity, Mapping Zebra, Energylytix, and SEB Solutions**.

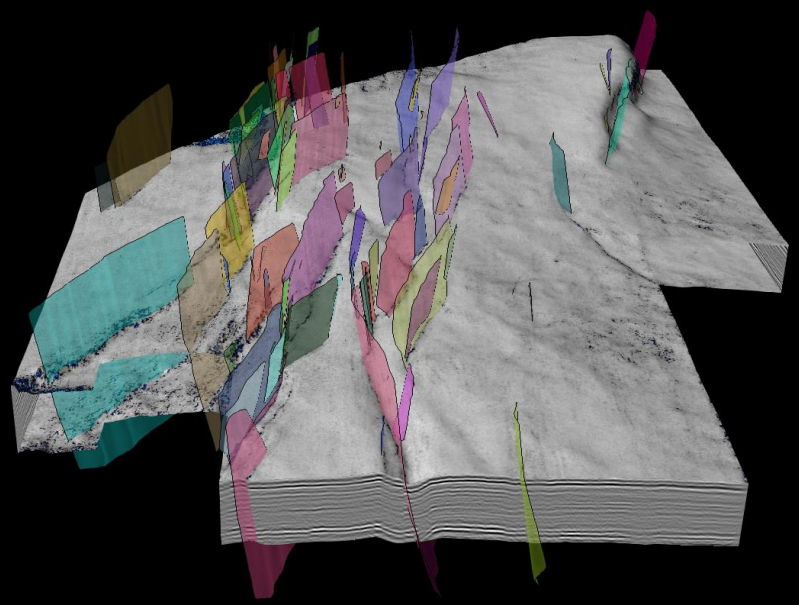
MAPPING ZEBRA
Innovative Workflows for Interpretation

ENERGYLYTIX

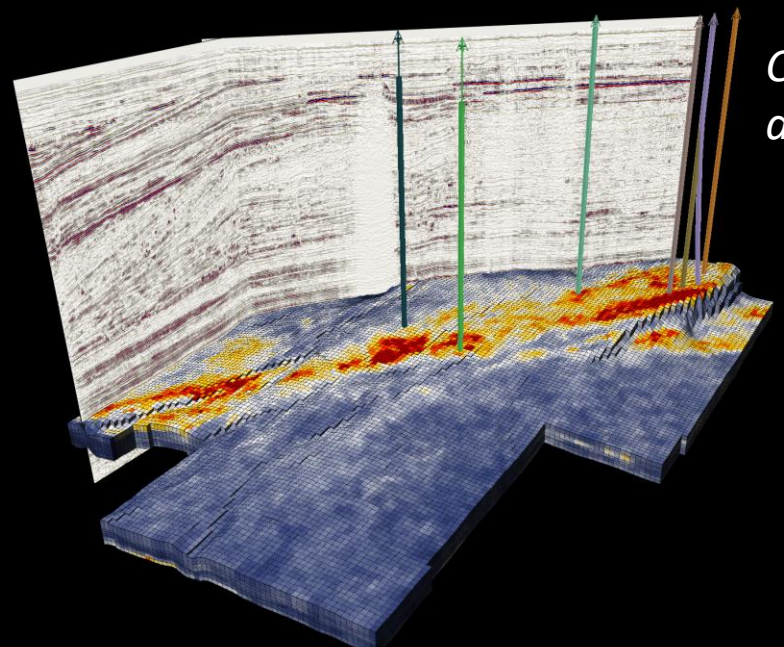
SEB solutions





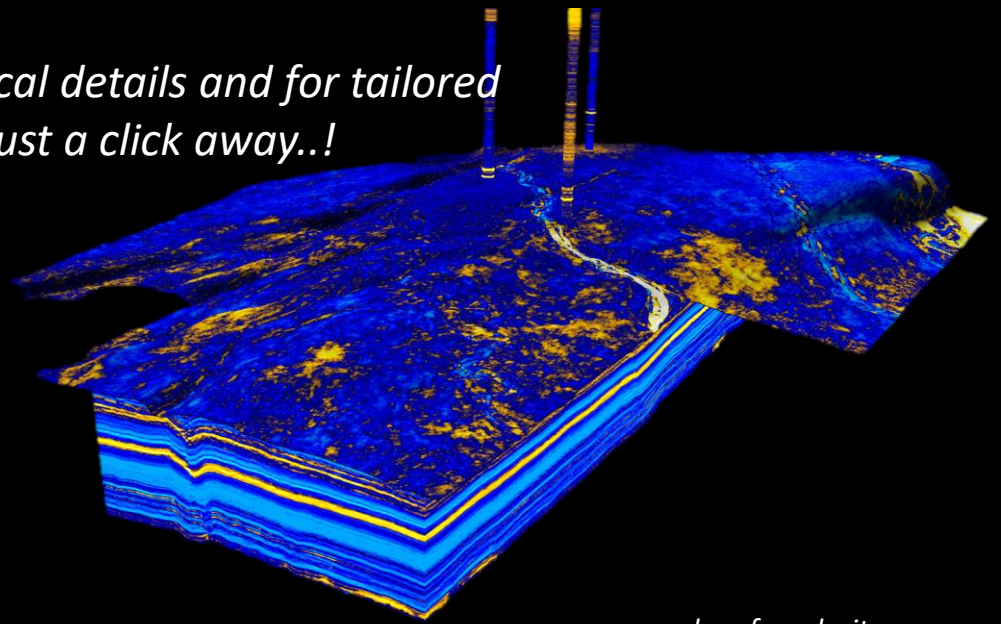


Thanks for your kind attention ….!



Connect with us for additional technical details and for tailored discussions with your teams… we're just a click away..!

PRE-CONDITIONING
STRATIGRAPHIC INTERPRETATION
WELL ANALYSIS
SEQUENCE ANALYSIS
STRUCTURAL INTERPRETATION
FACIES INTERPRETATION
3D PROPERTY MODELING
GEOCELLULAR MODELING



subsurfaceclarity.com