

PALEOSCAN™

Assessing Trap Uncertainty: A Geological & Stochastic Workflow for Early Exploration

Sven Philit

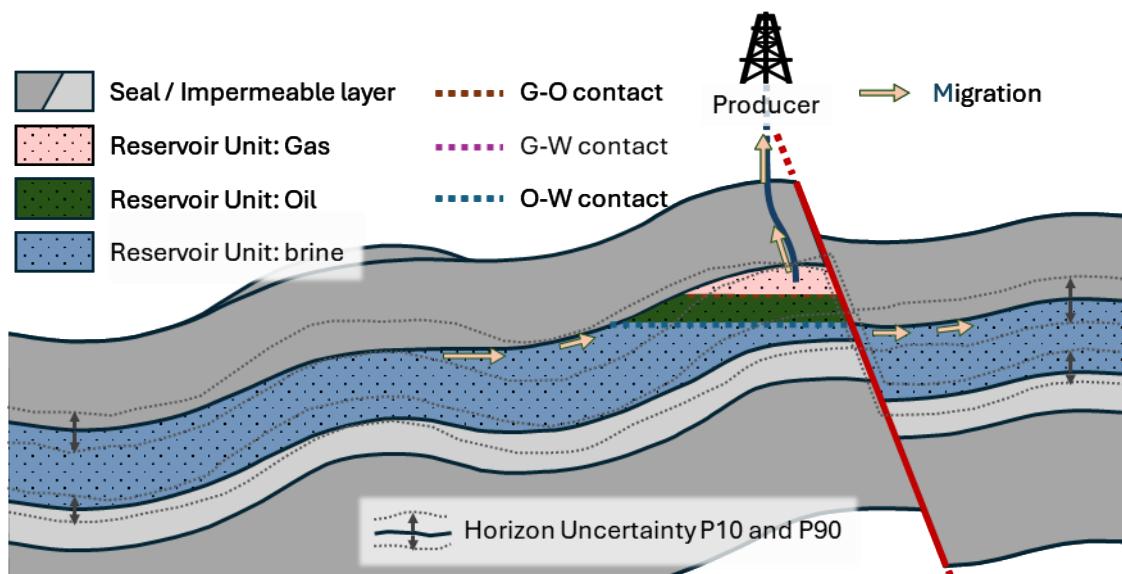
March 2025



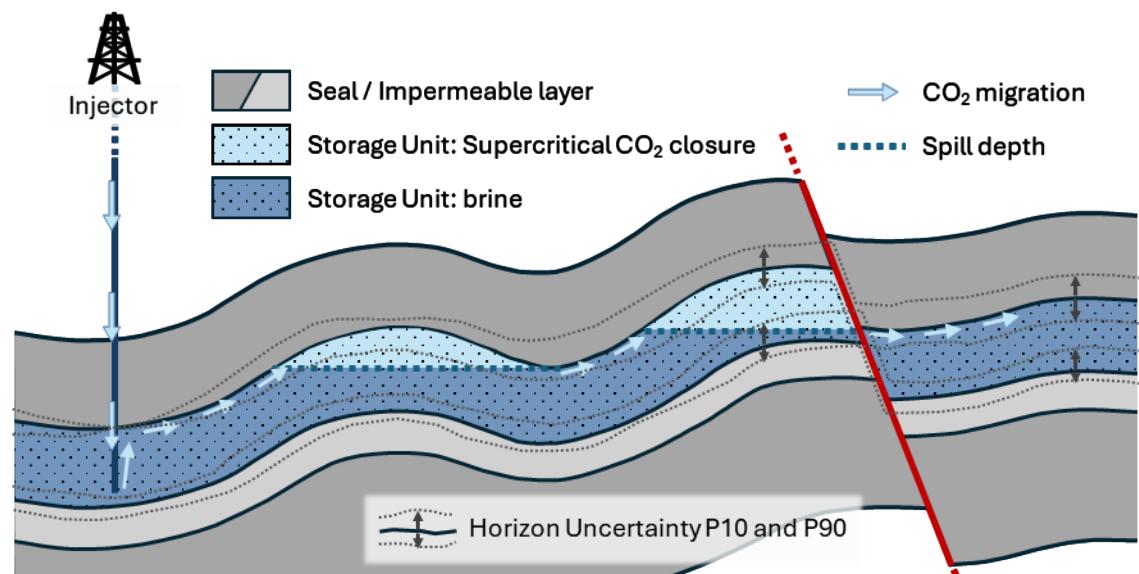
Uncertainties for Prospect Assessment Derisking

Uncertainty affects Gross Rock Volumes (GRV) at stake

Conventional Hydrocarbon Resource



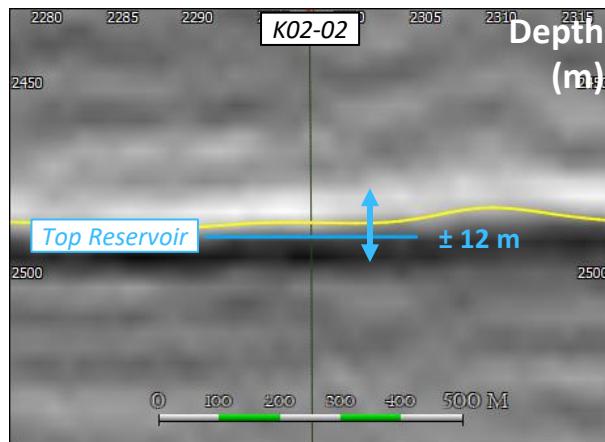
CO₂ Storage



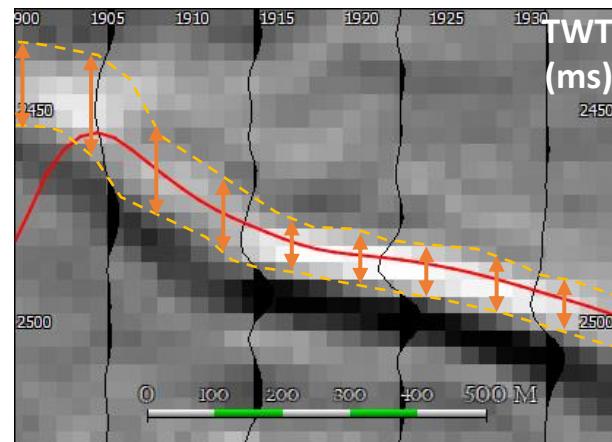
Need to assess top/bottom reservoir position potential error

Uncertainty Factors

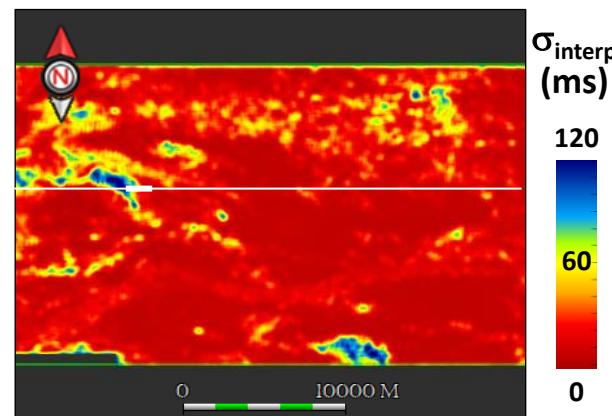
Marker position



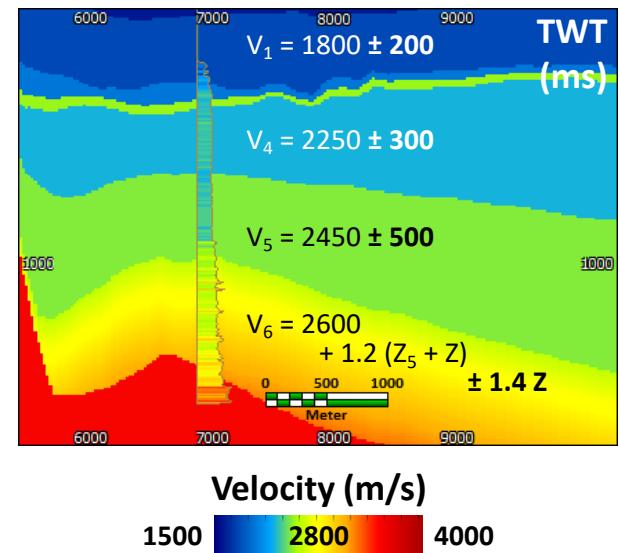
Interpretation



Horizon uncertainty map



Velocity Model



Structural uncertainty

Interpretation uncert.

Velocity uncert.

Well tops uncert.

Impact on resources

*Probability of success
(trap, seal)*

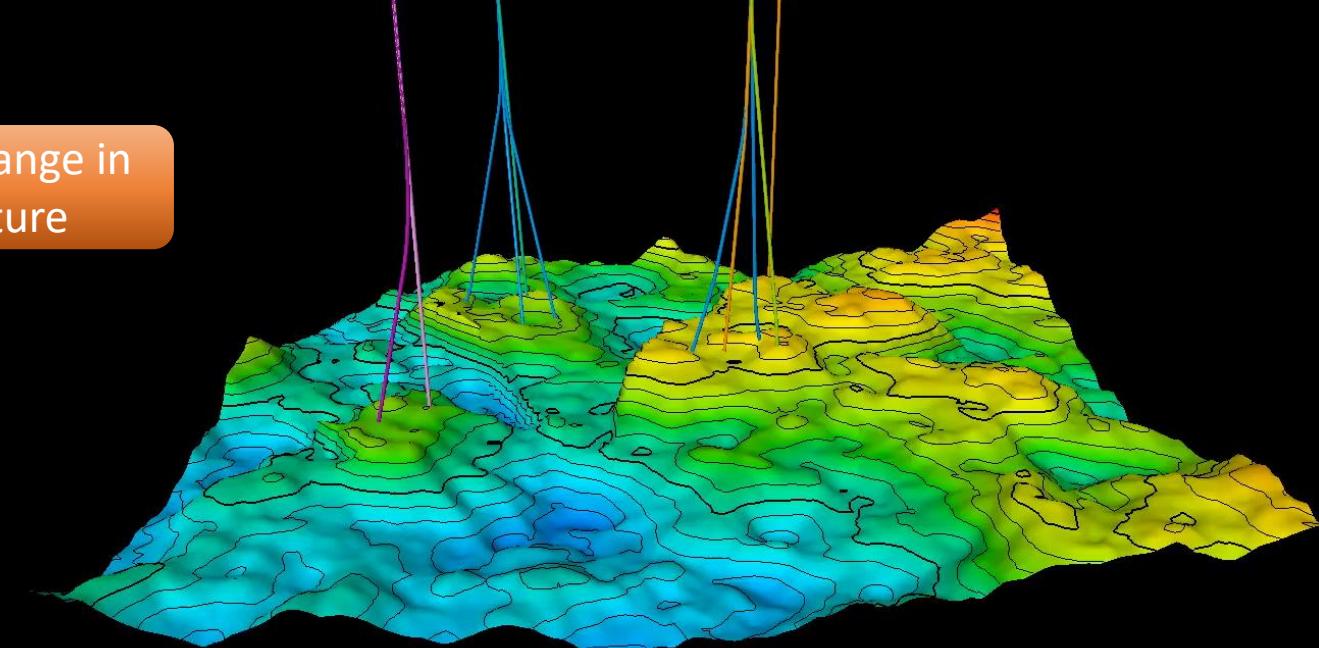
Volumes

*Sweet spots
targets*

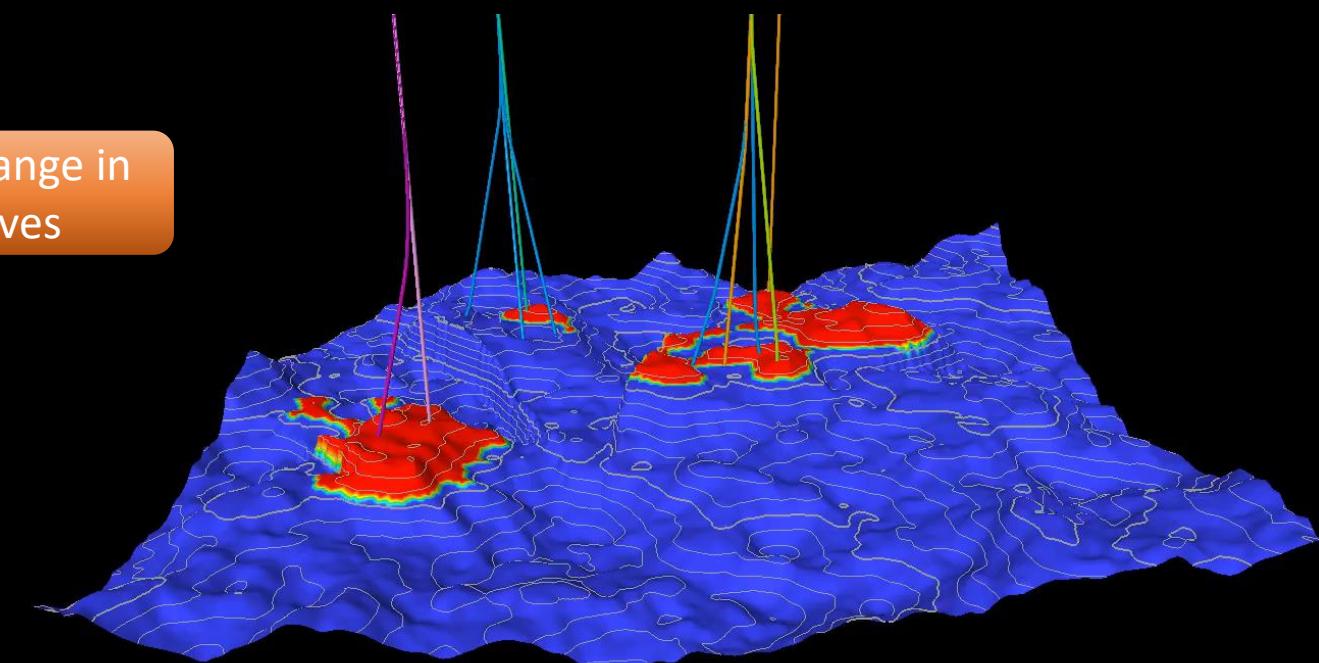
Prognosis



Small change in structure



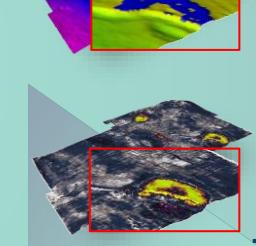
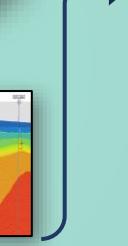
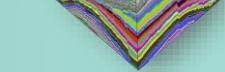
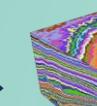
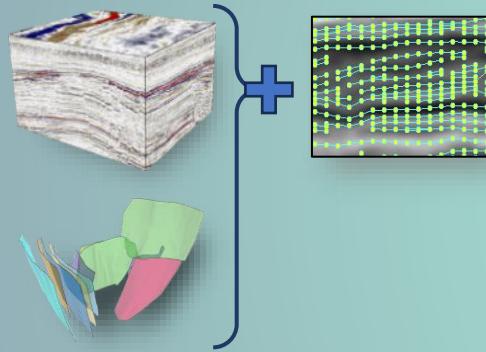
Large change in reserves



Proposed Workflow



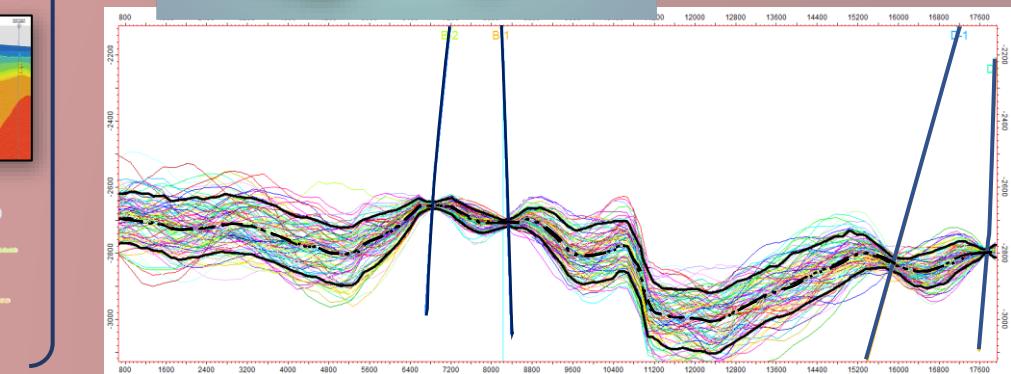
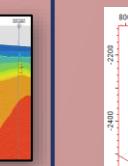
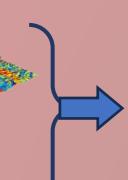
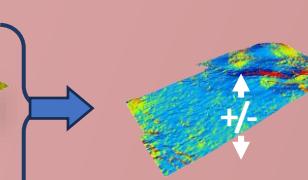
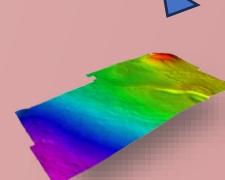
Time



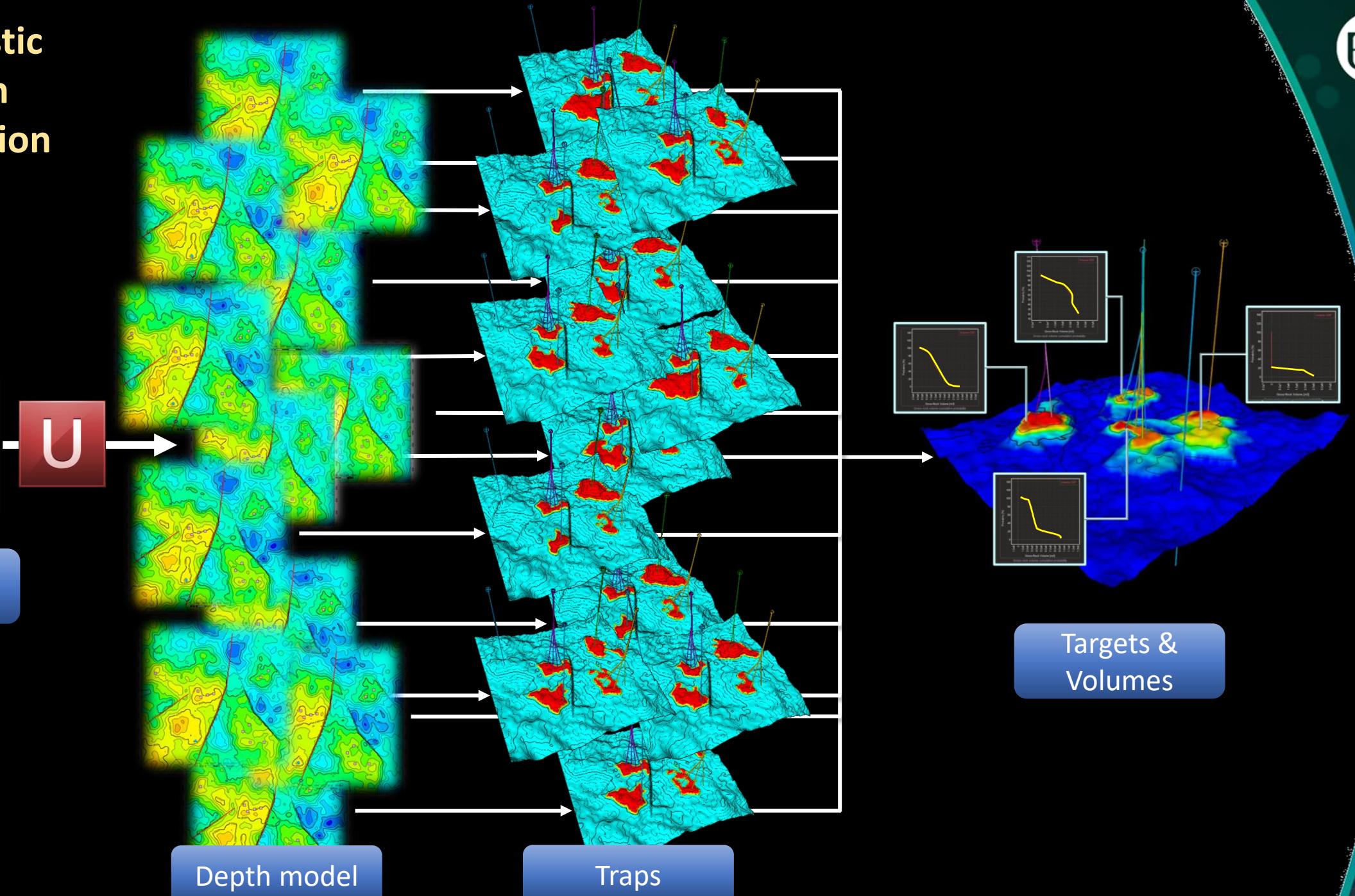
GRV

Depth

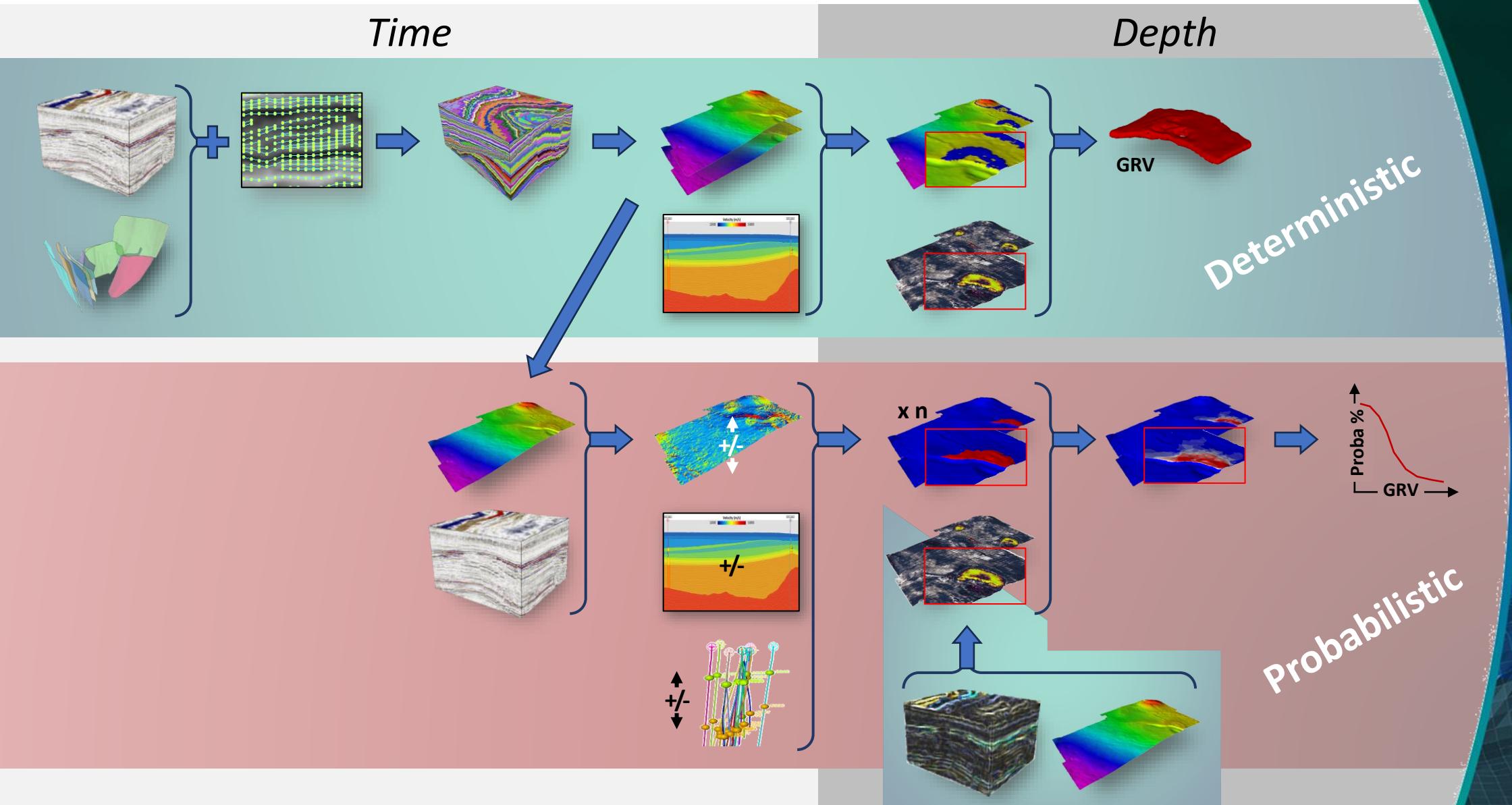
Deterministic



Stochastic Depth Conversion



Proposed Workflow



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