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**The Impact of Supra-Sub Salt Geomechanics on Trap’s Integrity and Drilling**

**Velocities Crossover due to Geopressure: Implication to AVO Assessment**
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**Dirty vs. Clean Salt: Their Impact on the Sub-Salt Wilcox Deep Water Exploration Plays**
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- Remote Sensing Research Project, Cairo-Oklahoma State University, 1975
Proficiency

*From the Play Concept and Prospect to the Wellhead*

**Play Concept and Lead Evaluation:**
- **✓** Basin setting and the source area appraisal
- **✓** Regional trends, deposition system, sequence stratigraphy and potential optimum exploration fairways
- **✓** Determine migration paths based on geopressure drive and carrier beds architecture (seismic)

**Prospect Generation and Assessment:**
- **✓** Appraise the potential lead and generate feasible prospects
- **✓** Map the prospect (2D/3D Seismic and Offset well correlations)
- **✓** Assess prospect’s primary and secondary objectives based on seismic attributes, geopressure and seal effectiveness models
- **✓** Integrate seismic velocity, attribute analysis and offset well correlation to assess the proposed wildcat’s subsurface compartmentalization and its impact on hydrocarbon entrapments
- **✓** Run the G.A.S. newly developed Strat-Geopressure mapping model (RMS velocities and wells) to evaluate success and failure for specific horizon closures
- **✓** Integrate seismic, potential stratigraphy and geopressure profile to highlight zones of drilling challenges
- **✓** Assess casing and mud programs appropriate for drilling the first well using the newly developed prediction geopressure model
- **✓** Run economic feasibility profile, including risk assessment
- **✓** Prepare AFE’s

**Testing the Prospect:**
- **✓** Collaborate with the drilling department to select the safest and optimum well location to test the prospect
- **✓** Drilling follow up to calibrate the geopressure prediction model and create synthetic seismic for depth adjustment
- **✓** Suggest core and test zones (RFT’s, MDT’s, DST’s)
**Post drilling appraisal:**

- Estimate of hydrocarbon limits from the first wild cat
- Top seal analysis to determine the top seal integrity and breached reservoirs
- Assess causes of success or failure
- Propose offset wells and design plan of exploitation
- In case of failure, what we have learned and can be avoided next time?