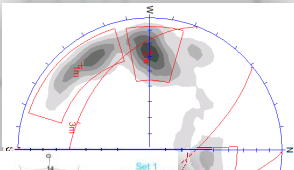


GEOLOGIC & PETROPHYSICAL APPLICATIONS OF WELL LOG INTERPRETATION

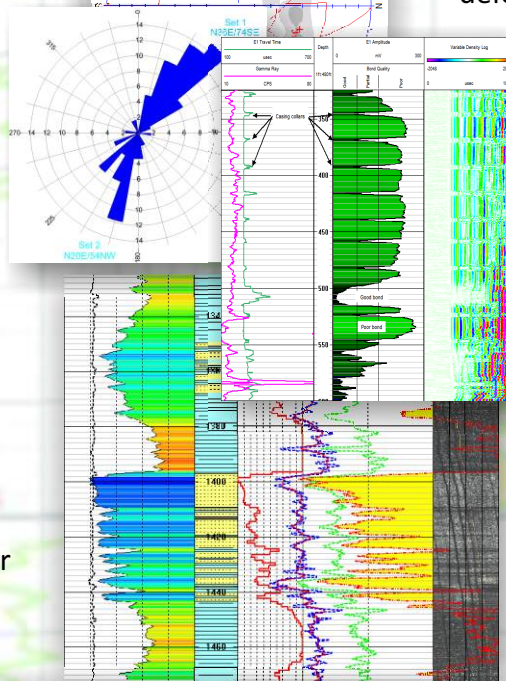
Borehole Image Analysis

- Identification of structural and sedimentological features on image logs
- Identification of drilling-induced fractures & borehole breakouts
- Determine orientation of planar features such as bedding planes & fractures



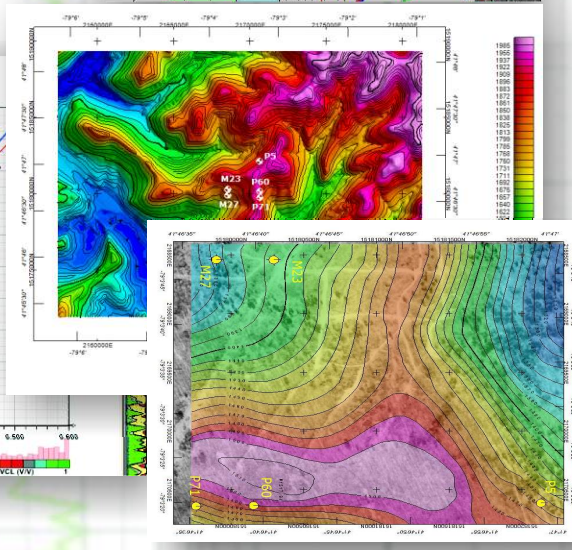
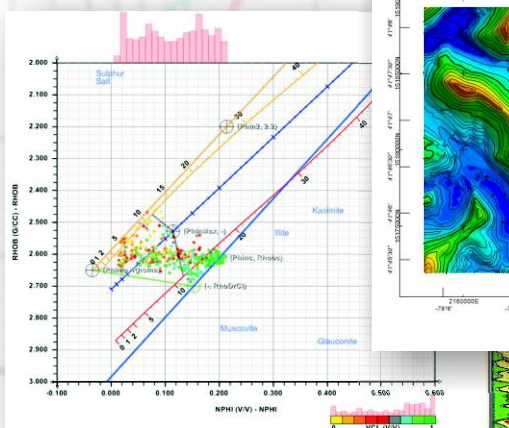
Structural Analysis of Dip Meter or Image Logs

- Determine mean strike & dip of bedding & fracture sets
- Analyze vertical and lateral changes in orientation to evaluate geologic structure and sedimentology
- Spherical statistics using Fisher analysis
- Terzaghi analysis to account for directional biasing in vertical wellbore



Formation Evaluation

- Determination of porosity, water saturation, & shale volumes
- Clay type estimation based on spectral gamma log



Cement & Casing Evaluation

- Analysis of acoustic amplitude to determine the effectiveness of cement bond
 - Optical televiewer analysis to identify casing defects
 - Acoustic imaging to evaluate casing integrity and travel time analysis to provide high-resolution images of casing deformation

Acoustic Analysis

- Determination of compressional, shear, or Stoneley wave velocities
- Compute amplitude and attenuation of waveform energy to evaluate fractured zones and infer permeability

Geomechanical Analysis

- Evaluate in-situ stresses using borehole breakout analysis
- Determine mechanical rock properties such as Poisson's Ratio, Young's Modulus, Bulk Modulus and Shear Modulus

Subsurface Mapping

- Three-dimensional modeling of petrophysical parameters
- Shaded relief isopach & isochore maps
- Sand-shale distribution maps
- Stratigraphic correlation
- Fence diagrams & cross sections

