**Stratigraphic Cross sections**

- **Mississippian Carbonates**
- **Pennsylvanian Carbonates**

**Morrow Slope (Dip Angle) Map**
- Map elaborated with computed processed data from 14,574 wells with top of Morrow horizon.
- Possible faulted areas in dark colors, indicating rapid change of slope.
- Oil and oil-gas production appear to be related to faulted areas.
- Eastward migration of Morrow incised-valleys (IV-1, IV-2, and IV-3) through time may be related to tectonic movement in SW Kansas and eastern Colorado (Kayene Dune).

**Mississippian Paleostructure Map**
- Mississippian Paleostructure Map based on computed processed data from 6,201 wells with top of Mississippian horizon.
- Datum plane is the Permian Stone Corral Formation.
- Morrow limestone accumulation is located at a shelf/edge margin.

**Stratigraphic Chart**

**CONCLUSIONS**

- Recognition of 5 sedimentary depositional sequences.
- 3 incised valleys (from older to younger IV-1, IV-2, and IV-3) are filled mostly with estuarine facies and with minor nearshore marine and fluvial facies.
- Thickness varies from 20 to 40 meters for older IV-1, IV-2 and IV-3. Individual incised valleys are 60 to 100 km long and 40 to 70 km wide. Infilling sediments thicken southward to southwestward.
- Sequence 4 is dominated by accumulation of limestone and paleosols with minor estuarine and nearshore marine facies. Thickness varies from one to 40 meters. Limestone 4 approximated dimensions are 140 km in length and 40 km wide.
- Depositional trends of incised valleys are oriented NW-SE.
- Migration of incised valleys (1-3) to the east through time, may reflect tectonic movement in SW Kansas and eastern Colorado.
- Morrow sediments thin eastward, onlapping Mississippian carbonates of the Central Kansas Uplift.