



## WESTCARB Annual Business Meeting

### *Update on geologic modeling of the southern San Joaquin Basin*

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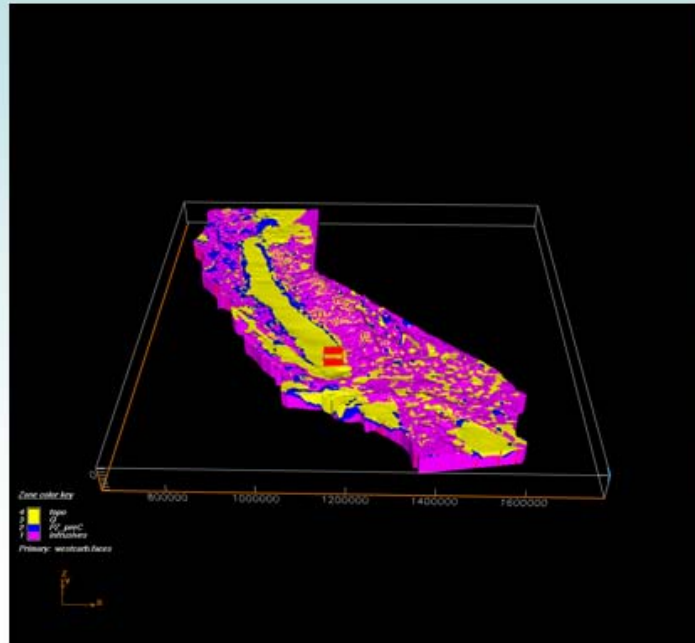
October 1–2, 2008



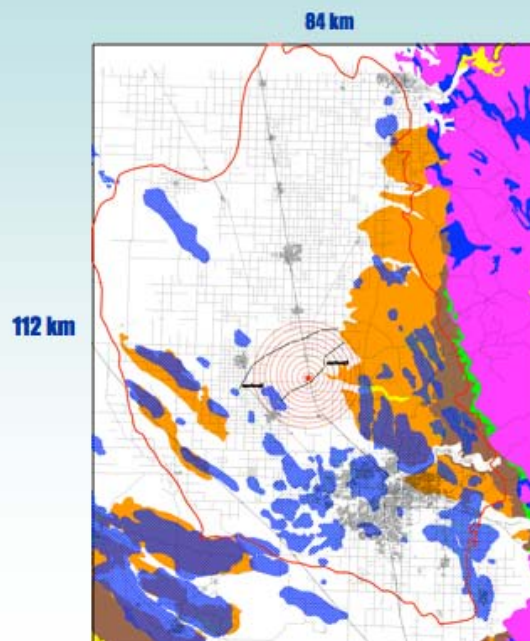
### *Two 3D geologic models were generated for the southern San Joaquin Basin.*

- *The regional model is 84 km x 112 km and the smaller model is 10 km x 10 km. Both models are centered on the Kimberlina power plant.*
- *These models contain up to 15 time-stratigraphic layers and >140 faults.*
- *The main source of geologic data is DOGGR and most of the data were digitized from hardcopy.*
- *Wildcat exploratory wells were used for stratigraphic control between the oil and gas fields.*
- *EOG Resources provided well picks, as well as seismic interpretation, for some areas west of the Kimberlina site.*

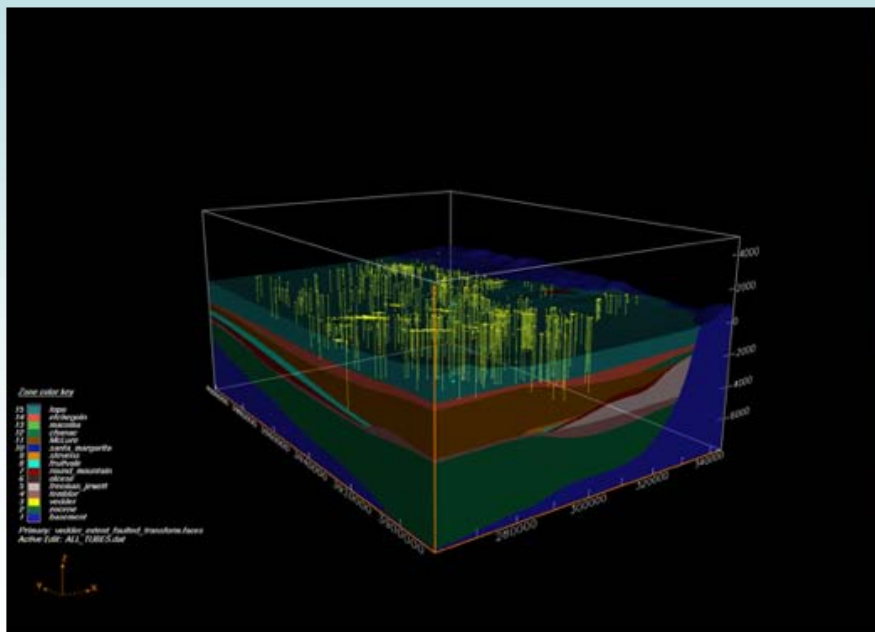
*The area of interest is located in the southeastern corner of the San Joaquin Basin.*



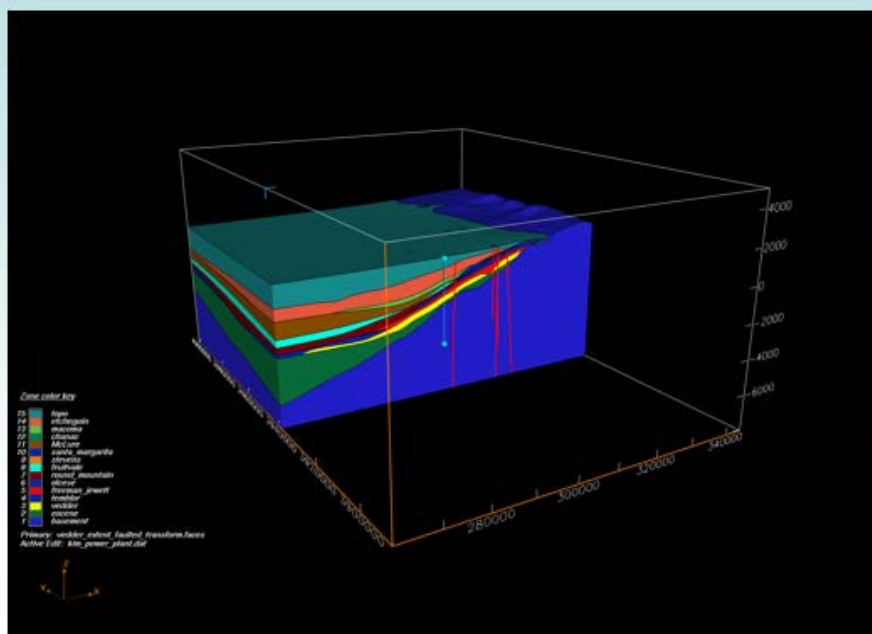
*The range of the regional model is shown below. This map shows the Kimberlina power plant (red star), 1 km radius circles from the power plant, surface geology, oil fields (light blue polygons), faults (green lines), roads (gray lines), and the areal extent of the Vedder Formation (large red polygon).*



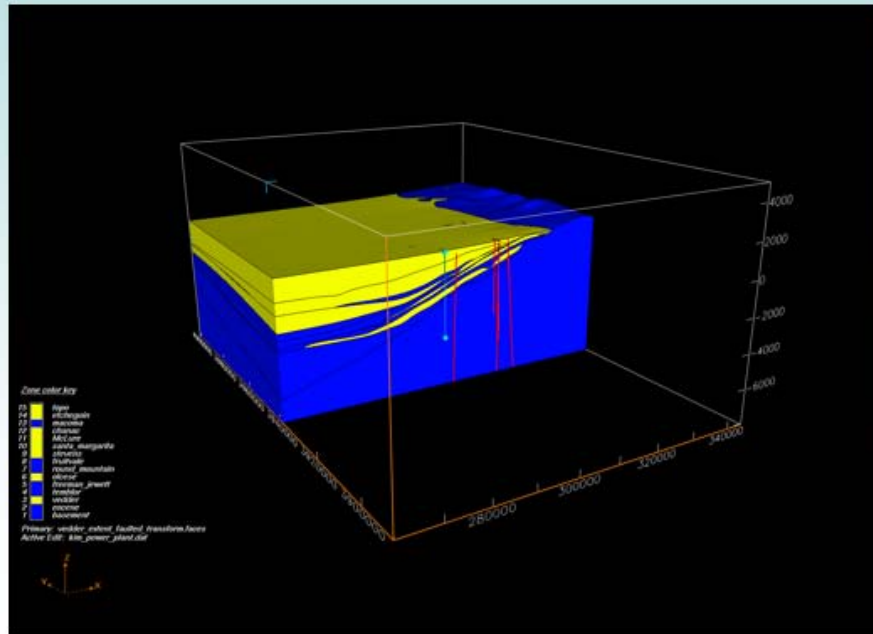
*The regional model is based on stratigraphic data from >1500 boreholes.  
The formations are transparent and the wells are yellow.*



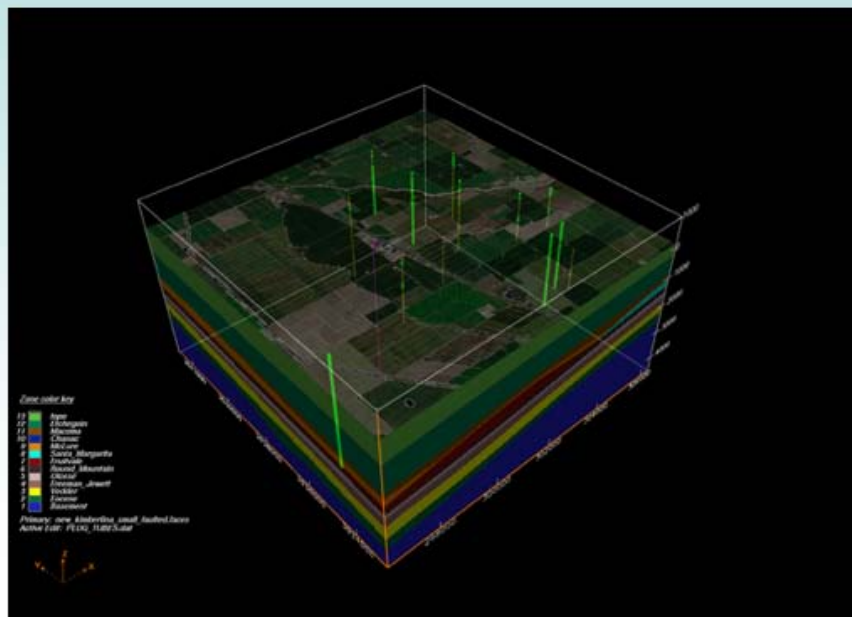
*This is a cut-away view of the regional model at the location of the power plant  
(vertical blue line). The faults are shown as red lines.*



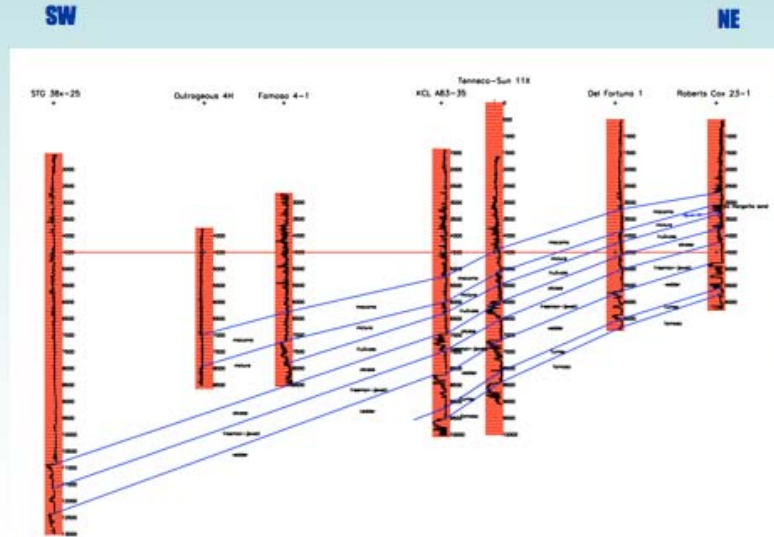
*This is the same view of the regional model, but with a different color scheme. The seals are blue and the reservoirs are yellow.*



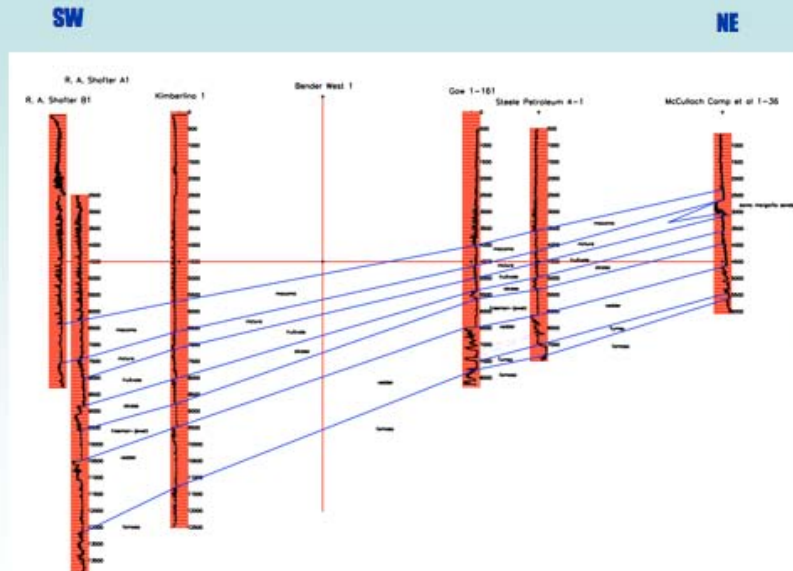
*This is the smaller model near the power plant. The formations are transparent and an air photo has been draped over the topographic surface. The power plant is shown in pink. Depths where there are documented plugs in the wells are shown in green; open areas are yellow.*



**Cross section #2 trends SW-NE, north of the power plant (see regional plan map). The correlated geophysical logs are SP logs.**



**Cross section #3 trends SW-NE and is located south of the power plant (see regional plan map). The power plant is located ~1km north of well Bender West 1.**



## Summary

- *The geologic model of the southern San Joaquin Basin is a “living model”.*
- *Stratigraphic, structural, and geophysical data are continuously added, whenever the data become available to the project.*
- *Lithologic data has been added to the geologic framework to create a 3D lithofacies model, showing the spatial distribution of lithology around the Kimberlina power plant.*
- *Physical property data can also be added in the future to create a 3D property grid.*
- *Future seismic and borehole data will help to constrain the stratigraphic and structural interpretations.*