Get into the Gulf Coast 3D (Golden-3) and bring up CrossLine 50 and note the amplitude anomaly appearing at about 1.2 seconds in the display (Figure 1).

Figure 1: Seismic line from the Gulf Coast area.

As you go through this exercise I suggest that you bring up Word and copy maps into the word file as you go. When you have a map up in Kingdom, you can use the View > Copy Active Map to Clipboard option and paste the map in your word file. This will allow you to access figures for discussion of the interpretation required in this problem.
a) In this exercise you will extend your 3D seismic interpretation to include a new horizon. The new horizon should be picked by following the negative cycle located at about 1.23 seconds (Figure 1).

b) However, first, refine your fault interpretations in the shallow part of the data to ensure fault intersections with this horizon are properly picked.

c) Pick this 1.2 second negative reflection event. First, remember to right click on a vertical (seismic line) display and set the picking parameters. This is a trough that you are asking the computer to find and follow along your lines. I’d suggest undertaking the picking on your north-south inlines.

d) Once you’ve completed picking the Horizon (every 10 lines), digitize the fault polygons.

e) Next > use Horizon > Polygon Hunt to fill in your picks on this horizon. Use the 3D Effects.CLB color bar.

f) Contour this time surface (use appropriate contour interval).

g) View > Copy Active Window to Clipboard (to make a copy of your time surface).

h) View the amplitudes on this horizon and compute contours (use a suitable contour interval).

View > Copy Active Window to Clipboard (to make a copy of your map - then paste it in Word).

i) Compute an average velocity map using the Time Surface approach. Eliminate Well #13 from the computation.
j) View > Copy Active Window to Clipboard (to make copy of your velocity map for use in your Word report. Make sure you include a color bar for reference).

k) Convert to depth (select **view map when done**).

l) Contour your sand-zone depth map (use 20 foot contour interval).

- **When finished, prepare an illustrated discussion of the results obtained from the foregoing analysis.**

Work the following discussion points into your write-up.

1) Time and amplitude variations observed for this horizon.
2) Geometry of the negative amplitude feature noted in Figure 1.
3) Possible geological interpretation of that feature.
4) Evidence of this feature in the time map. If so how does it manifest itself (i.e. a zone of greater or lesser travel time)?
5) Compare the time and depth maps.
6) Make recommendations for well locations and justify your recommendations through reference to points and maps made in the preceding discussion.
7) Use topical headings to highlight your presentation (i.e. **time and amplitude maps, ... conclusions and recommendations**).

**Due next Wednesday** & bring questions to class on Monday.