Some detachment planes are well defined on the seismic as shown on the in-line to the left where a readily recognizable herring-bone pattern indicates that the displacement along the detachment fault is of large magnitude.

In dotted lines is the possible ramp associated with the recognized detachment plane.

All of the wells in the area of interest have encountered faults at depths very similar when considering that the overall reservoir thickness is of the order of 3000 feet.

These fault intersections have been previously interpreted as reverse faults (up to 510 feet of repetition) and as normal faults (as much as more than 2000 feet missing).

The fault throw map shows trends that are gives support to the existence of a single major fault along which both missing and repeated sections are found.

The seismic quality and more particularly the seismic migration are very poor; thus only vertical and horizontal faults have proved to be reliably interpreted. Time slices were used intensively to chose between various hypotheses.

A bird’s eye map was generated using seismic, dipmeter data and the stratigraphy of the layers recognized below the hypothetical fault plane. The short distance and complexity between chaotic stratigraphic units above the proposed fault plane are in line with the hypothesis of out of sequence deformation. This is particularly well developed in the wells with the very large missing section such as well 7.

Following a compressive phase from the NE associated with a low angle thrust and its associated folding, another compression has led to a partial decapitation of the existing fold.

The low angle to horizontal detachment planes have been associated with some 400 feet of highly reduced reservoir quality below the 14850’ detachment plane wherever sand is present above the plane. When Carapita shales are overlying the detachment plane, there is little damage to the underlying reservoir.

The study area is bounded by the study line. The well cross-section showing the major decapitation associated with the 3rd compressive phase.