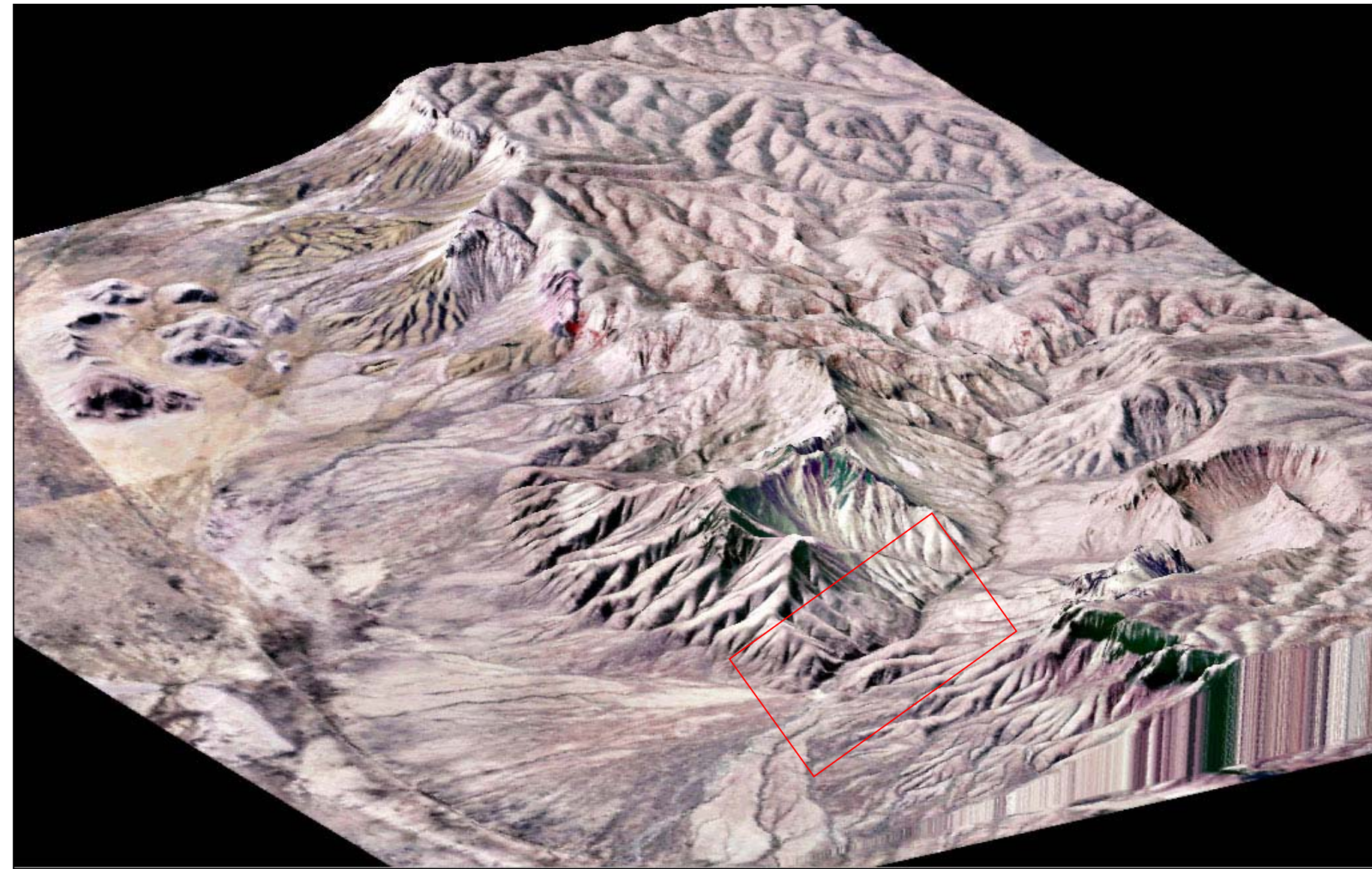
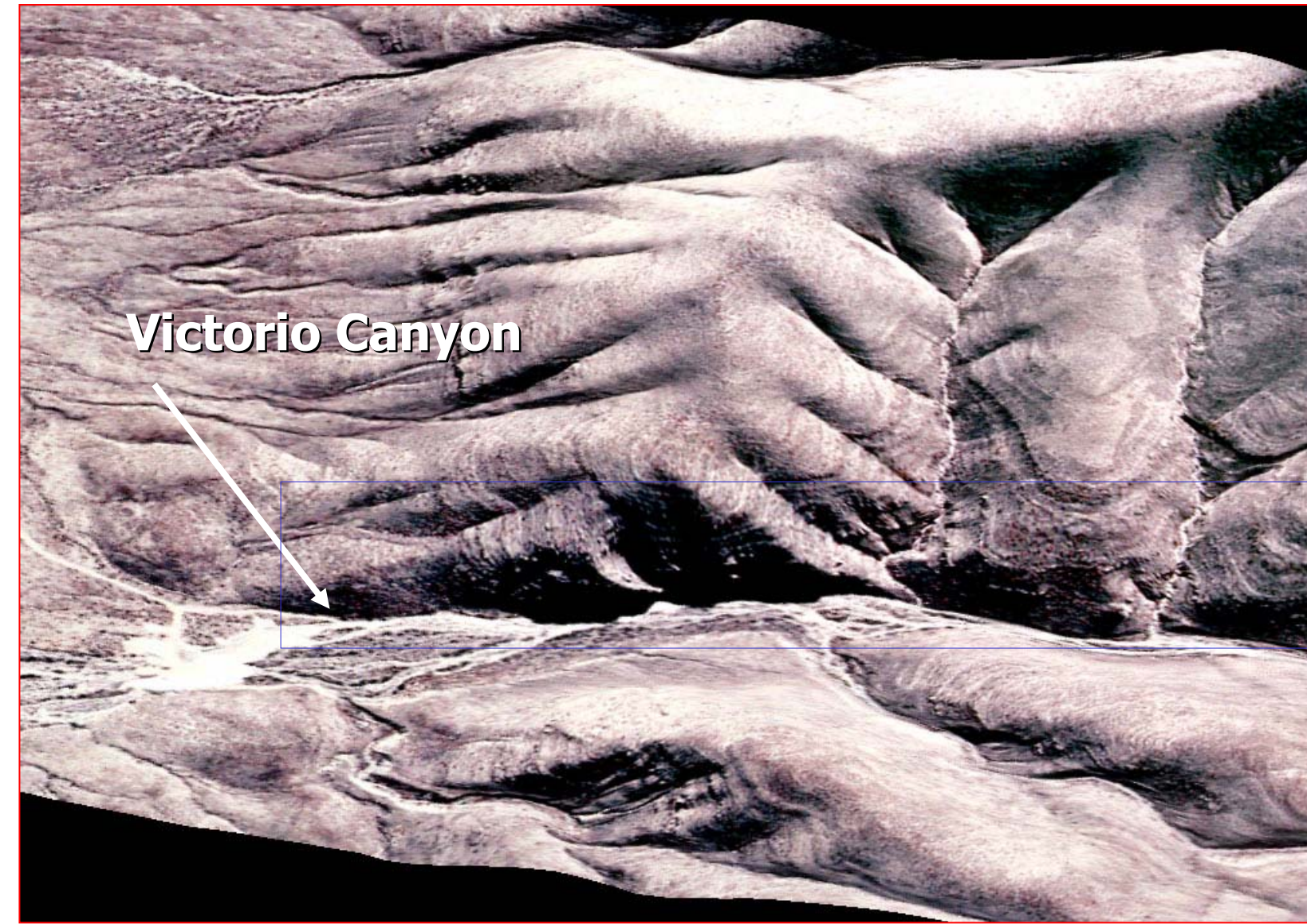


Carbonate Case Studies

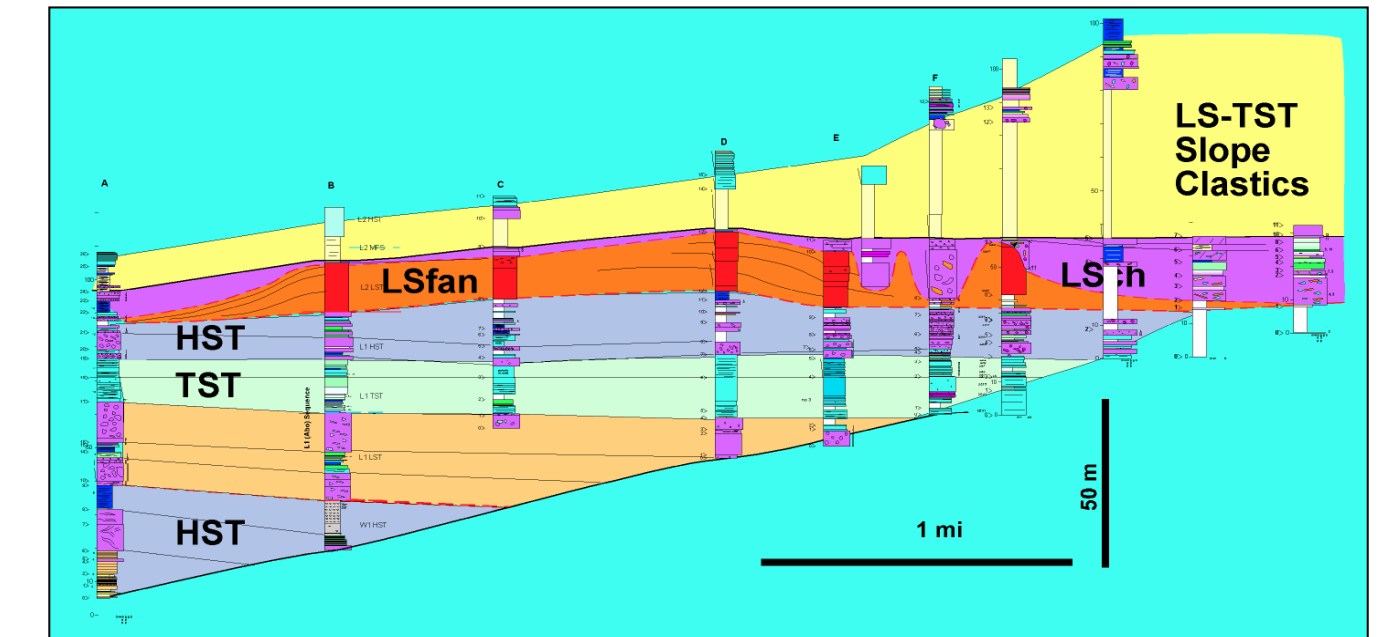
Upper Hueco – Clear Fork Formations, West Texas: (basin geometry)



Above is a digital elevation model of the Sierra Diablo Mountains. The red box outlines the mouth of Victorio Canyon where good outcrops of the Upper Hueco through Clear Fork Formations on both north and south facing canyon walls. Here, we will focus on the north facing wall.

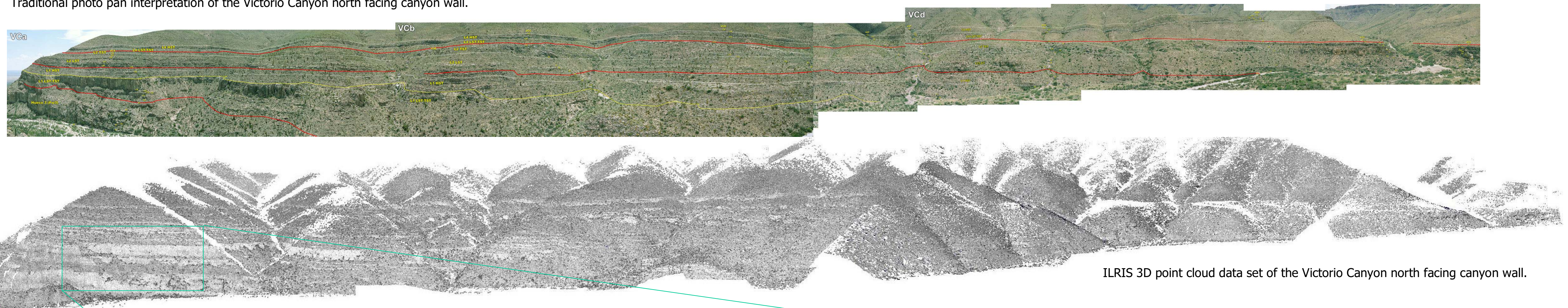


The blue box above outlines the area of the north facing wall of Victorio Canyon that was scanned using Optech Laser Imaging's ILRIS 3D ground based LIDAR instrument in February of 2002.

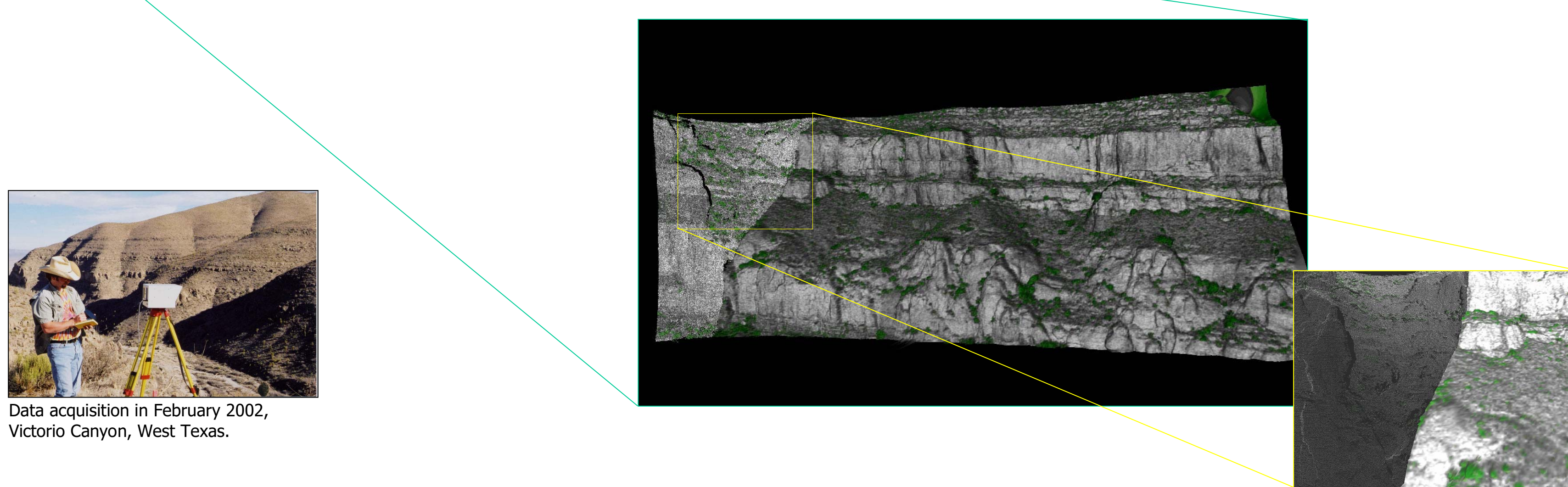


This cross section illustrates slope and toe of slope deposits (late Wolfcampian through early Leonardian) Victorio Canyon, West Texas that crop out along the north facing wall of Victorio Canyon.

Traditional photo pan interpretation of the Victorio Canyon north facing canyon wall.



ILRIS 3D point cloud data set of the Victorio Canyon north facing canyon wall.



Data acquisition in February 2002, Victorio Canyon, West Texas.

The images in the blue box above illustrate both the photo pan and the ILRIS 3D LIDAR scan of the north facing wall of Victorio Canyon. The photo pan has stratigraphic interpretation in red, white and yellow whereas the ILRIS 3D point cloud does not. The transfer of these data from the photo pan onto the ILRIS 3D point cloud are currently in progress and are beginning to unravel new stratigraphic relationships previously undocumented with regard to three dimensionality of the exposure in Victorio Canyon. A complete model of the Sierra Diablo Mountains (Upper Hueco through Clear Fork Formations) is also in progress; the Victorio Canyon outcrop being the first of the batch.

The images to the left in yellow and green boxes are moderate resolution TIN and intensity images generated from the ILRIS point cloud data. The green coloration in these images is a linear, intensity cutoff indicating vegetation. Once photographs are applied to these data, red, green, blue and intensity "attributes" can be used to aid in mapping various stratigraphic units. The yellow inset box shows the transition between TIN and point cloud and a close-up of the green "coded" vegetation.