Figure F1. User interface of the depth-shift editor in Virtual Core. Ties are made (dashed line) between matching features, most commonly fractures in the acoustic borehole image and the CT scan.

Figure F2. User interface for rotational adjustments needed to orient the core: cylinder unwrap view of the CT image (left) and acoustic borehole image (right). The yellow vertical line in the CT scan is 180° from the black marker line drawn during core recovery; its deviation from the center of the image shows the amount it has been rotated to orient the core. Numbers correspond to alignment matches typical for each of the lithologic units. A. Postimpact sediments were aligned by matching a (1) fracture and (2, 3, 4) gently sloping beds between the CT scan and the borehole image. B. In suevite, fractures are absent in both the CT scan and the borehole image. Rotation is warranted because of a match (1) between the ends of one section of core to the section below in the CT scan. C. The impact melt rock section was aligned by (1) matching the ends of one section of core to the section below and (2) by a high-angle fracture. D. Granite contains numerous alignment features including (1) matching the shape of the ends of one section of core to the section below, (2) continuation of a fracture at the ends of core section, (3, 4, 6) fractures present in the CT scan and borehole image, and (5) contact between the granite and a preimpact dike present in the CT scan and borehole image.

Figure F3. Diagram of the reference frame for the CT axial slice, CT cylinder unwrap, CT *x-z* slice, and linescan photo. A. Example of ideal situation where the cutting surface for the linescan photo is the same as the CT *x-z* slice, indicating proper alignment between the CT data and core photos. B. Example of a discrepancy between the CT *x-z* slice and the linescan photo. Note the position and angle of the fractures present in the CT *x-z* slice and the linescan photo are different. The axial slice shows that the *x-z* slice and the cutting surface are not the same plane.