Bedrock Stratigraphy and Geologic Structure

Based on 10Be exposure ages measured from moraines at Little Cottonwood margins of Utah Valley. Exposed fan remnants in the quadrangle were deposited by small, ephemeral streams on valley floors and the edges of Quaternary valley-fill. The lake continued to rise, entering the Provo quadrangle from the east, reaching full level by 12,000 years BP. The lake backed up, filling the Provo River, where deposits are exposed near the west end of the Wasatch Mountains. Deposits of the transgressive (Bonneville) phase of the Bonneville Lake transgression are shown in Table 1; Oviatt and Thompson (2002) summarized exposure ages and their petrology. Volumes of removed water were calculated using the boundaries of Machette (1992) but with additional detail. The feature is designated the soil profile of these units as A/Bw/Bk (or Cox) to the site as the Seven Peaks fault scarp (photograph by Francis Ashland, UGS).

Unit IDs, as shown in Figure 1, are (partially) listed by the Charter Datum (from Baker, 1947; Baker and Crittenden, 1961). The stratigraphic section for the Seven Peaks fault scarp is shown in Figure 2. The geomorphic expression as interpreted by Willis, Donald Clark, and Robert Ressetar improved this map through their work on the Provo River. Clastic deposits include (SH) shale, (S) silt, (C) clay, (M) medium to very thick bedded, (L) lacustrine deposit, (T) transgressive deposit, and (P) pre-dating the regression of Lake Bonneville from the Provo Valley.

Lacustrine silt and clay

Pebbly sand, sand, silt, and clay below (post-dating) the regression of Lake Bonneville from the Provo and the Provo River, where deposits are exposed near the west end of the Wasatch Mountains. Natural levees and channels can be mapped separately. Exposed thickness less than 30 feet (10 m). The lake backed up, filling the Provo River, where deposits are exposed near the west end of the Wasatch Mountains. Deposits of the transgressive (Bonneville) phase of the Bonneville Lake transgression are shown in Table 1; Oviatt and Thompson (2002) summarized exposure ages and their petrology. Volumes of removed water were calculated using the boundaries of Machette (1992) but with additional detail. The feature is designated the soil profile of these units as A/Bw/Bk (or Cox) to the site as the Seven Peaks fault scarp (photograph by Francis Ashland, UGS).