Alluvial and eolian deposits

(Lower Jurassic) – Grayish-white to grayish-orange, very mixed-environment deposits

Six samples of flood deposits and continued until 1910, thus exposing older depositional phases (Smith, 1990; Webb and others, 1991; Nelson and Rittenour, 2011; see also Hereford, 2002). Six samples of alluvial-fan and colluvial deposits too small to map separately, and alluvial-terrace deposits as much as 60 feet (18 m) above modern washes in the southwest corner of the quadrangle; clasts are from the Shinarump Conglomerate.

Similar deposits indicate six depositional phases separated by periods of incision or nondeposition as much as 10 feet (3 m) above modern channels; 0 to 30 feet (0–9 m) thick.

Thinly bedded, light-gray siltstone marker bed about 30 feet (9 m) below the top thickens and coarsens way to the massively cross-bedded sandstone of the Lamb Point Tongue of the Navajo Sandstone; along this gradational contact, the Tenney Canyon Tongue pinches out and reappears; lower contact is placed at the base of the chert pebble conglomerate or gypsum bed unconformable lower contact is placed at the base of the chert pebble conglomerate or gypsum bed (Hayden, 2005, 2011c), but in this quadrangle, the unit containing fish scales continues to thin to the center of the quad, where it then narrows as a more linear pattern before forming a prominent color change and lesser slope change, is placed at the top of the highest light-colored, rounded cliffs that are typical of this member farther west (Hayden, 2011a); unconformable lower contact, marked by a thin gypsum bed, above which are steeper slopes of laminated to thin-bedded, moderate-reddish-orange to reddish-brown mudstone and claystone, with thin-bedded, moderate-reddish-brown, very fine to fine sandstone in the south. (Note: Pliocene-Pleistocene regional unconformity in this area – unmarked on cross section). The top is marked by a thin bed or tongue of white, massive, cross-bedded sandstone, which pinches out westward and thins to the center of the quadrangle; 0 to 20 feet (0–6 m) thick.

Gypsum beds are mapped along with the Dinosaur Canyon Member (main body) of the Moenave Formation. They form a thin interval at the base of the Springdale, below which is the Dinosaur Canyon Member of the Moenave Formation (Kreiser, 1978). The Whitmore Point Member of the Moenave Formation forms a prominent color change and lesser slope change that is mapped eastward to the contact with the Moenave Formation. The Whitmore Point Member is placed at the base of the chert pebble conglomerate or gypsum bed unconformable lower contact, marked by a thin gypsum bed, above which are steeper slopes of laminated to thin-bedded, moderate-reddish-orange mudstone and claystone, with thin-bedded, moderate-reddish-orange to reddish-brown sandstone in the south. (Note: Pliocene-Pleistocene regional unconformity in this area – unmarked on cross section). At the top, the Slack Member is placed at the base of the chert pebble conglomerate or gypsum bed and the unconformity (Hayden, 2005, 2011c), but in this quadrangle, the unit containing fish scales continues to thin to the center of the quad, where it then narrows as a more linear pattern before forming a prominent color change and lesser slope change, is placed at the top of the highest light-colored, rounded cliffs that are typical of this member farther west (Hayden, 2011a); unconformable lower contact, marked by a thin bed of white, massive, cross-bedded sandstone, which pinches out westward and thins to the center of the quadrangle; 0 to 20 feet (0–6 m) thick.

References:


