

# **GRAND JUNCTION GEOLOGICAL SOCIETY**

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## **OCTOBER MEETING**

**WEDNESDAY 19, 2016**

**Joint meeting with the CMU Geology Students**

**7:30 PM**

**Saccomanno Lecture Hall  
(In the Wubben Science Building)**

**Ed Baltzer, Avant Environmental**

**Will Speak On**

**“Evidence for Quaternary Lakes, Western Colorado and  
Eastern Utah”**

**Abstract on Reverse**

**Guests Are Always Welcome**

## ABSTRACT

Numerous, often small-scale unconsolidated sediments and landslide deposits primarily located between 4,400 and 6,000 feet elevation are scattered throughout western Colorado and eastern Utah. These include thick sequences of fine-grained sediment overlying river gravel, nearly flat surfaces formed by these fine-grained sediments, and numerous toereva blocks, other landslide features, and thick gravel accumulations in drainages located at or near specific elevations (proposed shorelines). Many of these features have been previously mapped as alluvial fans, overbank sediments, slope wash, loess, eolian, or other non-lacustrine deposits, or as bedrock. However, the deposits and features to be discussed appear more likely to be of lacustrine origin. Taken together, they provide evidence of the existence of one or more lakes that had several short-term static elevations. The amount of apparent post-deposition incision, soil development, and other relative age-dating techniques indicates a likely mid- to late-Quaternary age for the deposits and therefore for the lake or lakes.

Sediments were deposited in pre-existing valleys, indicating that the general topography of these areas was formed prior to lake filling. It also appears that the lake drained rapidly enough to erode lake features located at elevations below about 4,400 feet. Lake drainage would have incised areas downstream, likely deepening the canyon topography present in the modern middle and lower Colorado River drainage. No specific evidence for dams forming the lake(s) has been identified, with such evidence possibly removed through post-failure erosion. Possible dam mechanisms and potential lake geometries and volumes will also be discussed.