

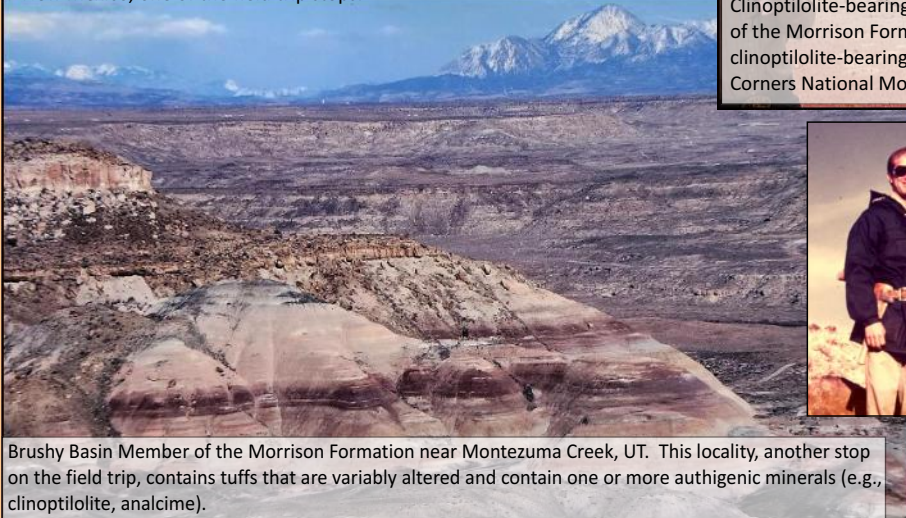
# A TOUR OF JURASSIC LAKE T'OO'DICHI: ALKALINE, SALINE WETLANDS OF THE MORRISON FORMATION IN THE FOUR CORNERS AREA



Analcime-bearing tuffs in the Brushy Basin Member of the Morrison Fm., Arches National Park. Similar analcimitic tuffs will be seen at Beclabito Dome, New Mexico, one of the field trip stops.



Clinoptilolite-bearing tuff in the Brushy Basin Member of the Morrison Formation, near Moab, Utah. Similar clinoptilolite-bearing tuffs will be seen at the Four Corners National Monument, one of the field trip stops.



Brushy Basin Member of the Morrison Formation near Montezuma Creek, UT. This locality, another stop on the field trip, contains tuffs that are variably altered and contain one or more authigenic minerals (e.g., clinoptilolite, analcime).



Bluff Sandstone Member of the Morrison Formation near Bluff, UT. This locality will be one of the field trip stops.

- DATES:** September 23-24, 2023. Two days / one night. Trip begins and ends in Durango, CO.
- LEADERS:** Dr. Christine Turner and Mr. Neil Fishman, Retired USGS
- ITINERARY:** Day 1: Durango, Four Corners Monument, Beclabito Dome. Overnight Bluff.  
Day 2: Bluff area, Montezuma Creek, McElmo Canyon (Battle Rock School), Durango.
- LIMIT:** 18 FCGS members. (All participants must be members of the Four Corners Geological Society).
- REGISTRATION:** Opens at 9am, June 30<sup>th</sup>, 2023. Online only through FCGS website > Events.
- COST:** \$125 base registration fee with additional lodging. Add \$113.40, \$56.70 or \$15.75 according to your lodging choice (private or shared room at the Recapture Lodge or camping at Sand Island)
- INCLUDES:** Transportation, Saturday & Sunday lunches, Group dinner on Saturday night, Four Corners Monument entrance fee, Navajo Nation permit and your lodging choice. Sunday breakfast included in Recapture Lodge fee. Campers will cook a group breakfast on Sunday.
- CANCELLATION:** Cancel with full refund by August 23<sup>rd</sup>.
- TRIP DROP DATE:** Trip will be cancelled on September 6<sup>th</sup> if minimum registration not reached. Registration fees will be refunded in full.
- CONTACT** Kim Gerhardt ([kim@mydurango.net](mailto:kim@mydurango.net), 970-759-7689 cell) for more information.

**TRIP DESCRIPTION:** What rock formation is green, purple, orange and blue, known for dinosaur fossils and hosts uranium? The Morrison Formation! It's all around us in the Four Corners Area, but how much do we really know about the depositional systems that formed it? Join us as we travel from the interior to the margins of the oldest, largest, alkaline, saline wetland in the geologic record with retired USGS geologists Dr. Christine Turner and Neil Fishman. In their interpretation, unusual pore water chemistry related to the alteration of silicic ash from calderas to the west resulted in a diagenetically zoned distribution of zeolitic minerals in the Brushy Basin Member only found west of the Uncompahgre uplift. We will also observe and discuss the tectonic, stratigraphic and sedimentologic aspects of the entire Morrison (including the Salt Wash and Bluff Sandstone Members) as we traverse the depositional basin in the greater Four Corners region.