

PHYSICAL EVIDENCE FOR A POST-FLOOD LACUSTRINE DEPOSITIONAL ENVIRONMENT FOR HOPI/BIDACHOCHI LAKE



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ABSTRACT

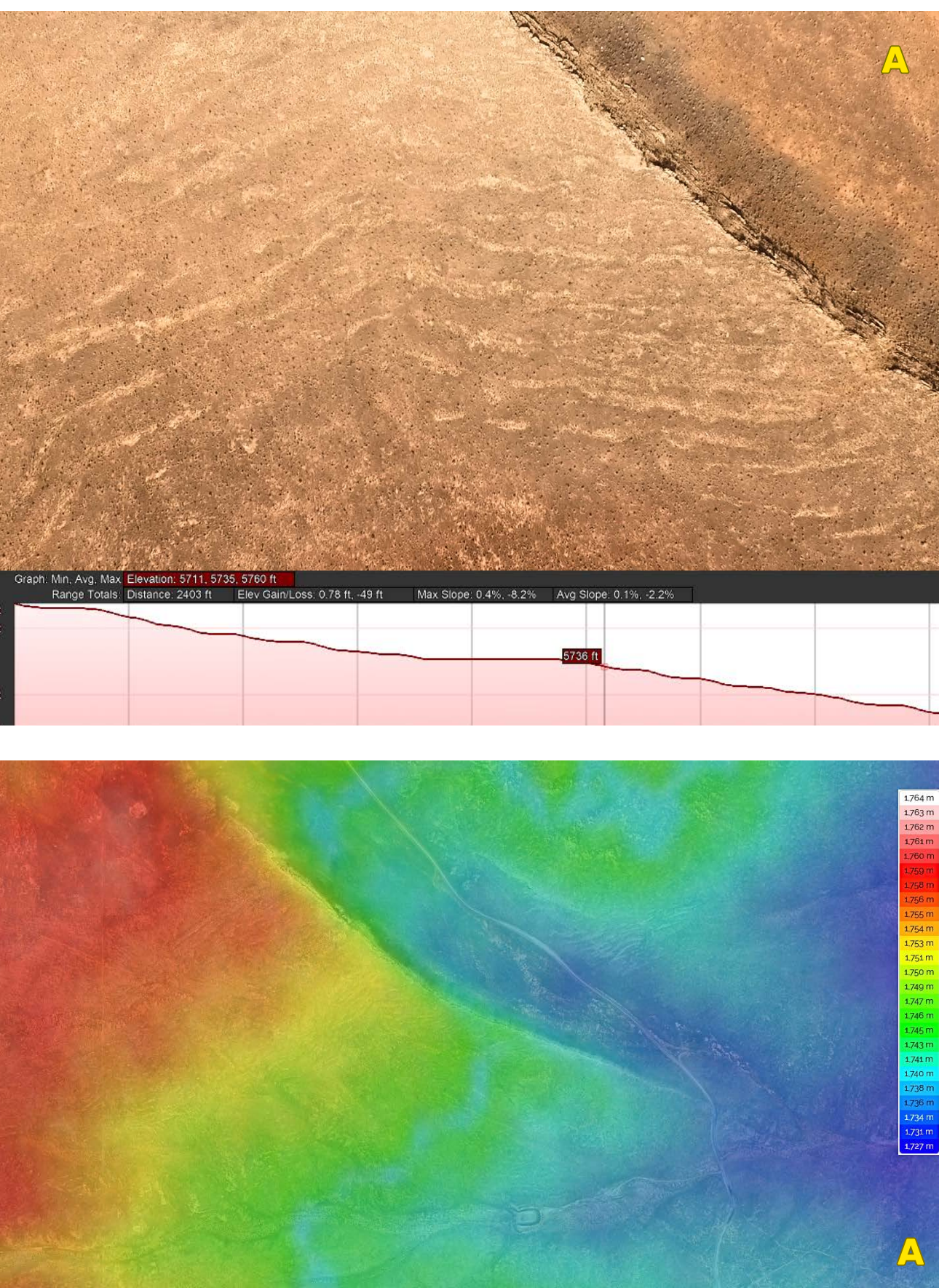
Geologists both within and outside the creation community have long proposed a breached dam and lake spillover hypothesis for the formation of Grand Canyon in whole or in part. One major lake system pointed to has been dubbed Hopi Lake or Lake Bidahochi, with supporting evidence found within the Bidahochi Formation.

The Bidahochi Formation in eastern Arizona overlies the Chinle Formation in many places and is described as a Miocene–Pliocene lacustrine deposit. As such, several creation geologists assign this to a depositional environment during the post-Flood Ice Age. Yet, there is a small group within the creation community who tend to disregard the Bidahochi Formation as being post-Flood and find no evidence for the large lake system proposed for its formation and the subsequent breaching of the Kaibab Plateau by Hopi-Bidahochi Lake and other linked lakes to the north in connection to a rapid and catastrophic formation for Grand Canyon in a post-Flood timeframe.

This poster does not attempt to deal with the entirety of the lake system within the Colorado Plateau, but rather only Hopi-Bidahochi Lake found within the Bidahochi Basin. The data presented is based on multiple years of physical survey and ongoing field research that includes both fossil and geological evidence supporting a post-Flood large lake in the Bidahochi Basin, believed to be responsible in part for the formation of Grand Canyon. Included imagery includes transgressional terraces, stromatolitic tufa, preserved ice casts, and post-Flood lacustrine and avian fossils found near the proposed shoreline of this lake in elevations of ~5,800 feet and above. The poster presentation highlights multiple locations within the Bidahochi Basin where supporting evidence may be found, and draws from more than a century of published works by geologists and paleontologists in pursuit of unraveling the geology and landscape surrounding the Grand Canyon and its formation.

PRESERVED LAKE SHORE STRAND LINES

Proposed transgressive lake shorelines are found at ~5,800 feet in elevation in multiple locals in the Bidahochi Basin.



FOSSILS FROM AN ICE AGE LACUSTRINE ENVIRONMENT

Body and trace fossils found in Bidahochi Formation at lakebed and shoreline elevations provide evidence of a freshwater lake depositional environment.

Canada goose tracks from Hopi Buttes Colosseum Diatreme



Additional faunal fossils found in the Bidahochi Formation include Tundra swan, camel, beaver, wolverine, mastodon, saber-toothed cat, amphibians, and freshwater mollusks.



Freshwater fish fossils in lakebed clays at White Cone



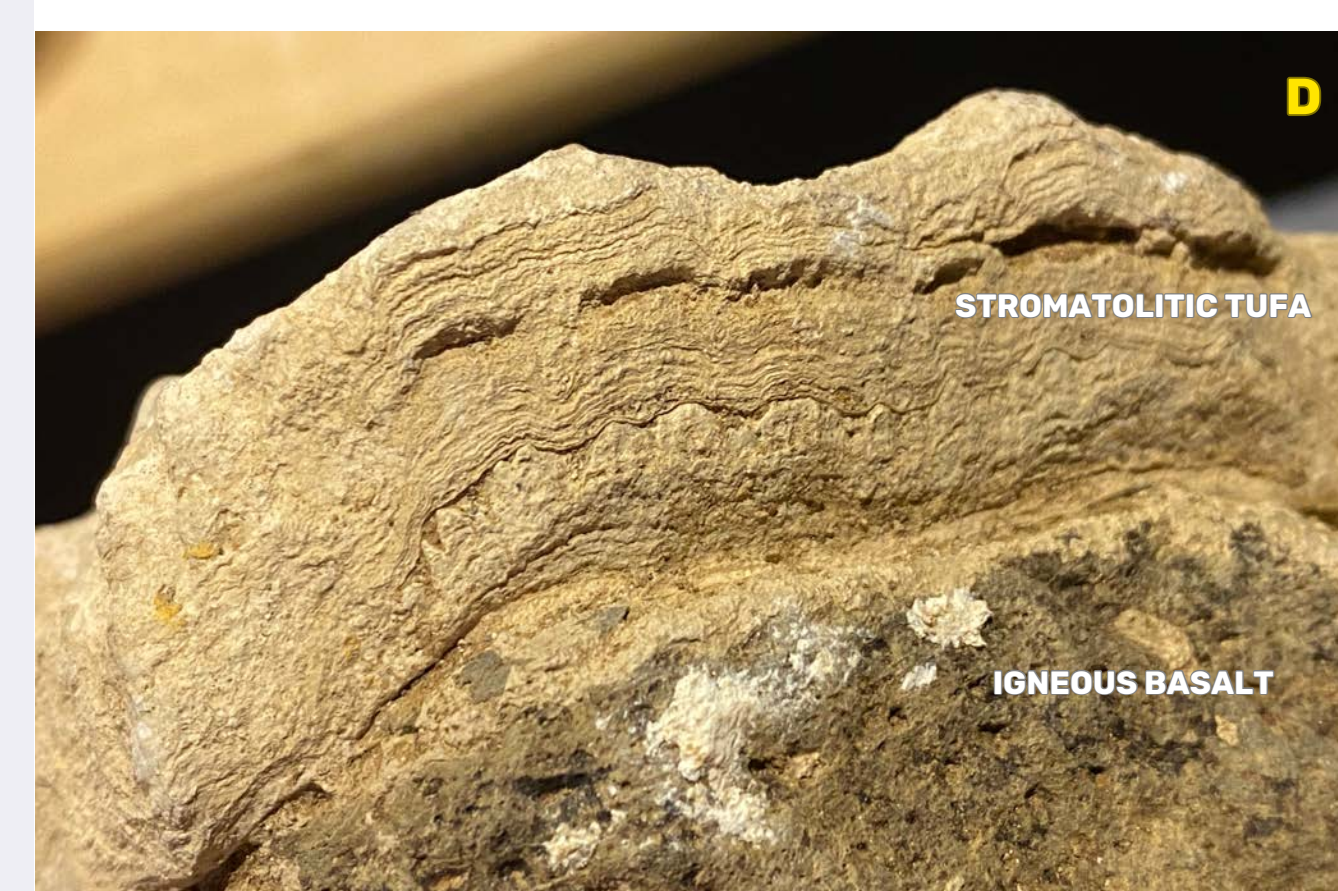
Preserved ice crystal casts at White Cone

CARBONATE TUFFA AT LAKE SHORELINE

Surficial carbonate beds identified as tuffa deposited at ~5,800 in elevation northeast of Flagstaff, Arizona.



Banded stromatolitic carbonate tuffa found deposited atop post-Flood San Francisco Volcanic Field basalt lava flows.



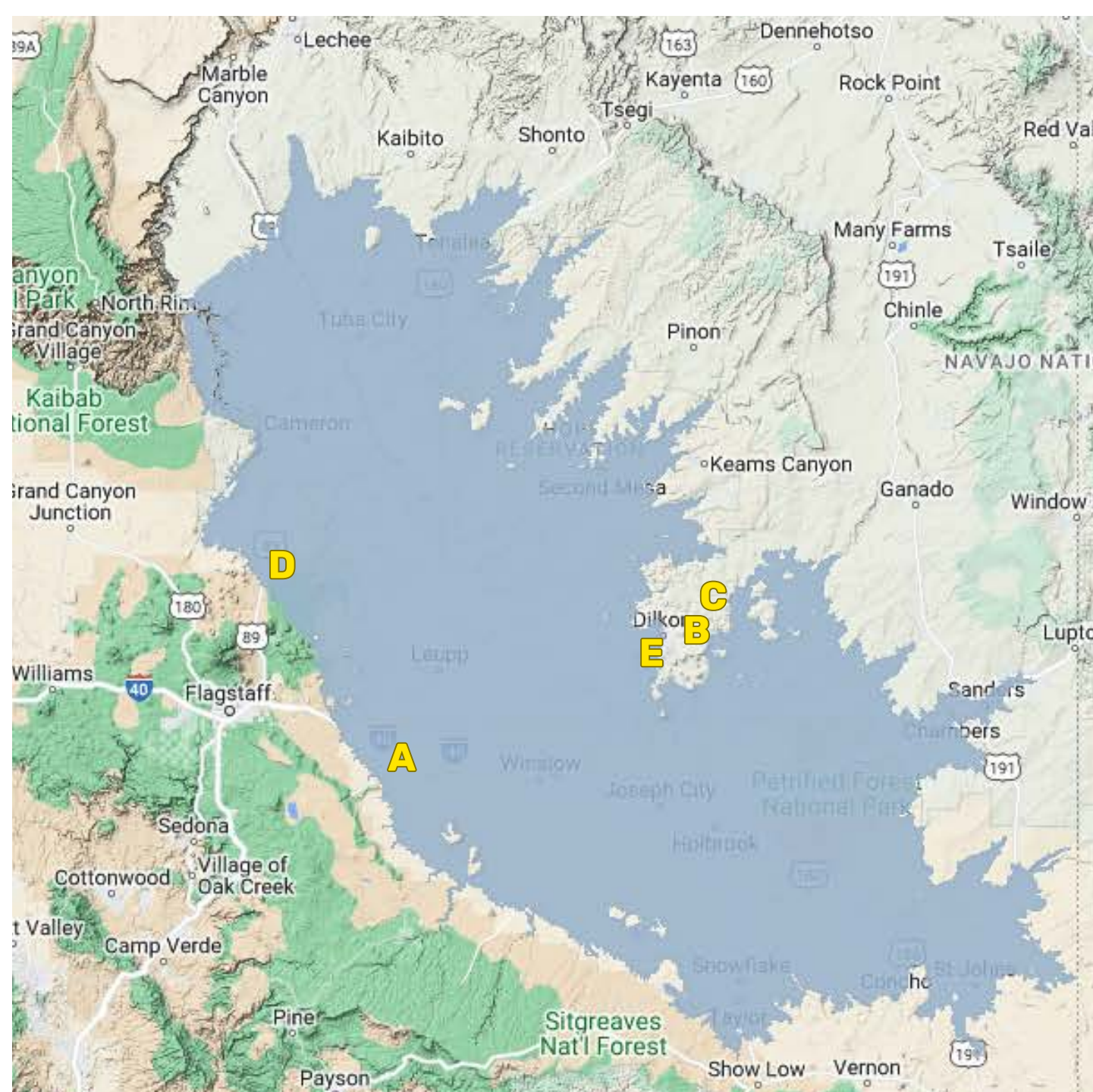
SHORELINE ELEVATION AND HOPI/BIDACHOCHI LAKE DEPTH

The Bidahochi Formation in the Hopi Buttes area is found at elevations from ~6,300–6,600 ft. The Bidahochi Basin drops to ~4,500 ft. to the west, with no containment wall to the Little Colorado River Gorge and Grand Canyon at present.

Based on mapped shorelines, tufa deposits, and fossil remains, estimations place Lake Bidahochi at water depths of up to 2,000 ft. in places, with a water volume of thousands of cubic miles.

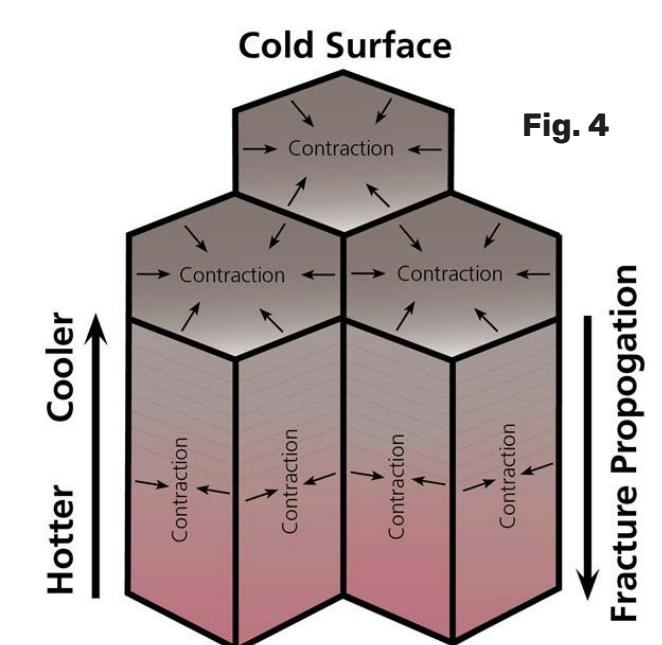
No large lake as evidenced could be contained in the Bidahochi Basin if the Colorado River/Grand Canyon drainage from the bowl-shaped Colorado Plateau was already present.

The Kaibab Plateau dam wall had to be intact while the lake was filling and Bidahochi Formation lakebed sediment was deposited.



HOPI BUTTES VOLCANOES ERUPTED THROUGH LAKE BIDACHOCHI

While much of the soft lake sediment of the Bidahochi Formation has been washed away or lost to wind and erosion, many extant examples in the Hopi Buttes remain as a result of protective lava caps. Several of the volcanic features are found in the form of maar-diatreme phreatomagmatic explosions. A number of volcanos such as Chimney Butte seen here include columnar jointed basalt. Together, these features suggest the volcanoes of Hopi Buttes erupted through the waters and sediment of Lake Bidahochi.



CONCLUSION

The presence of freshwater and Ice Age fossil remains provides strong evidence for Lake Bidahochi (Hopi Lake) to have been in existence in the biblical post-Flood era. Observed lake shoreline and tufa deposits indicate this lake was thousands of feet deep. No lake could have been formed if Grand Canyon were cut by Flood runoff, as the retaining dam wall of the Kaibab Plateau had to be intact for a lake to exist.

The freshwater environment shown through fieldwork and research speaks against a Noaic Flood recession model for the formation of the Grand Canyon, as the Flood was primarily a marine (seawater) event. The physical features found within the Bidahochi Basin provide direct evidence for a Breached Dam/Lake Spillover hypothesis for the primary formation of Grand Canyon during the post-Flood Ice Age.

IMAGE SOURCES

Fig. 1, 3 Breed, W. 1973. New Avian Fossils From The Bidahochi Formation (Pliocene), Arizona. *Cretaceous and Tertiary rocks of the Southern Colorado Plateau*. Four Corners Geological Society, Durango, CO.

Fig.2 Gootee, B. 2018. "Fossil Fish Bones Swimming in the Bidahochi Formation". The University of Arizona. Online: <http://azgs.arizona.edu/photo/fossil-fish-bones-swimming-bidahochi-formation>

Fig. 4 Courtesy of the National Park Service. Graphic by Allyson Mathis. Online: <https://www.nps.gov/subjects/volcanoes/columnar-jointing.htm>

All other images and graphics by Nate Loper. Use of Google Earth, Google Maps, and ESRI.