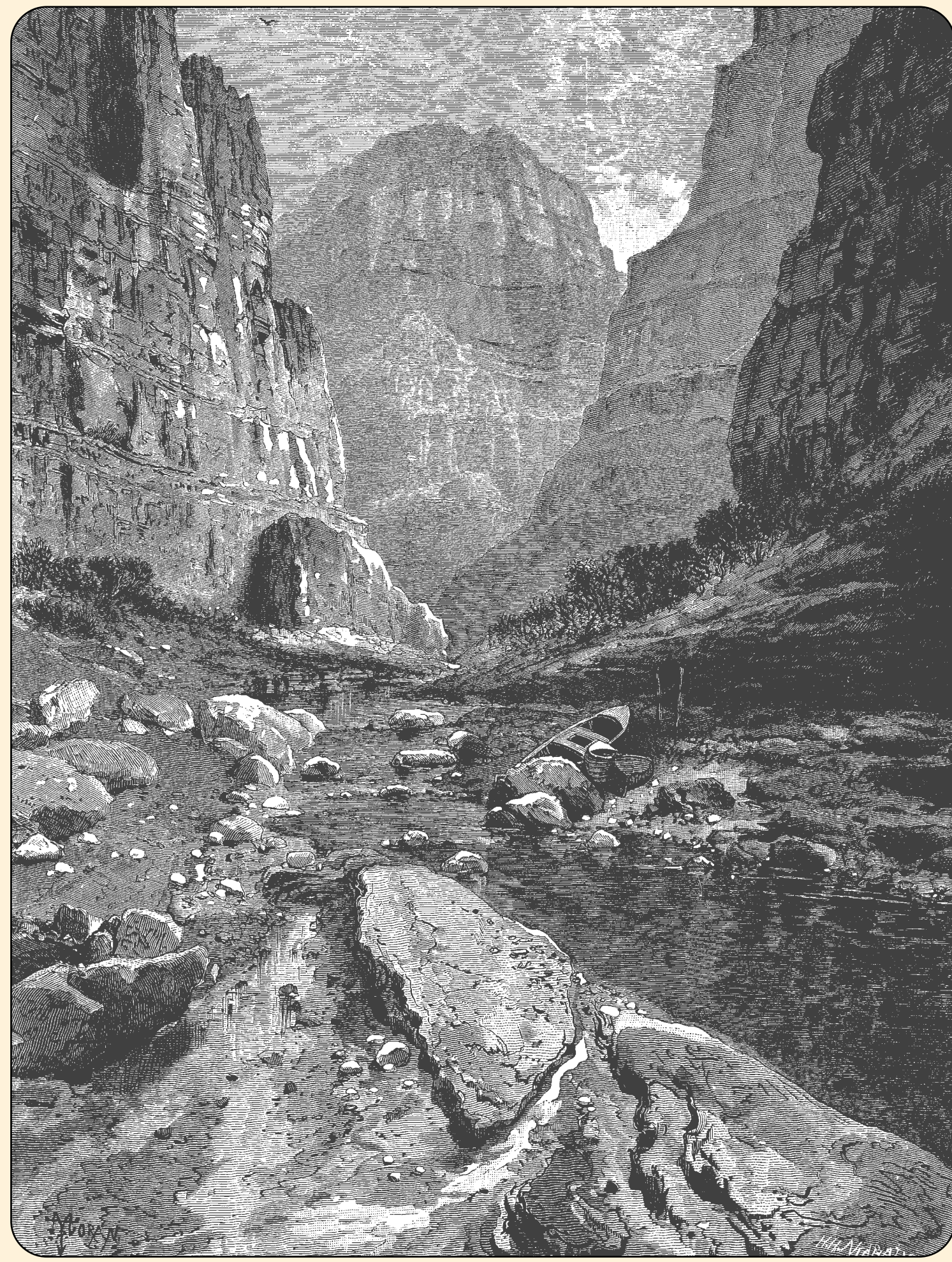


Geologic Map of the Grand Canyon, Coconino and Mohave Counties, Northwestern Arizona

By George H. Billingsley
Digital database by Haydee M. Hampton
2000
Prepared in cooperation with the U.S. National Park Service



Kanab Canyon. Woodcut of drawing by Thomas Moran showing Kanab Canyon, near the junction of Kanab Creek with the Colorado River. About 2,000 feet of wall is shown here, the upper portion being the Red Wall. The upper walls (Ansony Cliff) are not disclosed. The depth of Kanab Canyon here is about 4,500 feet. From U.S. Geological Survey Second Annual Report (1880-1881).

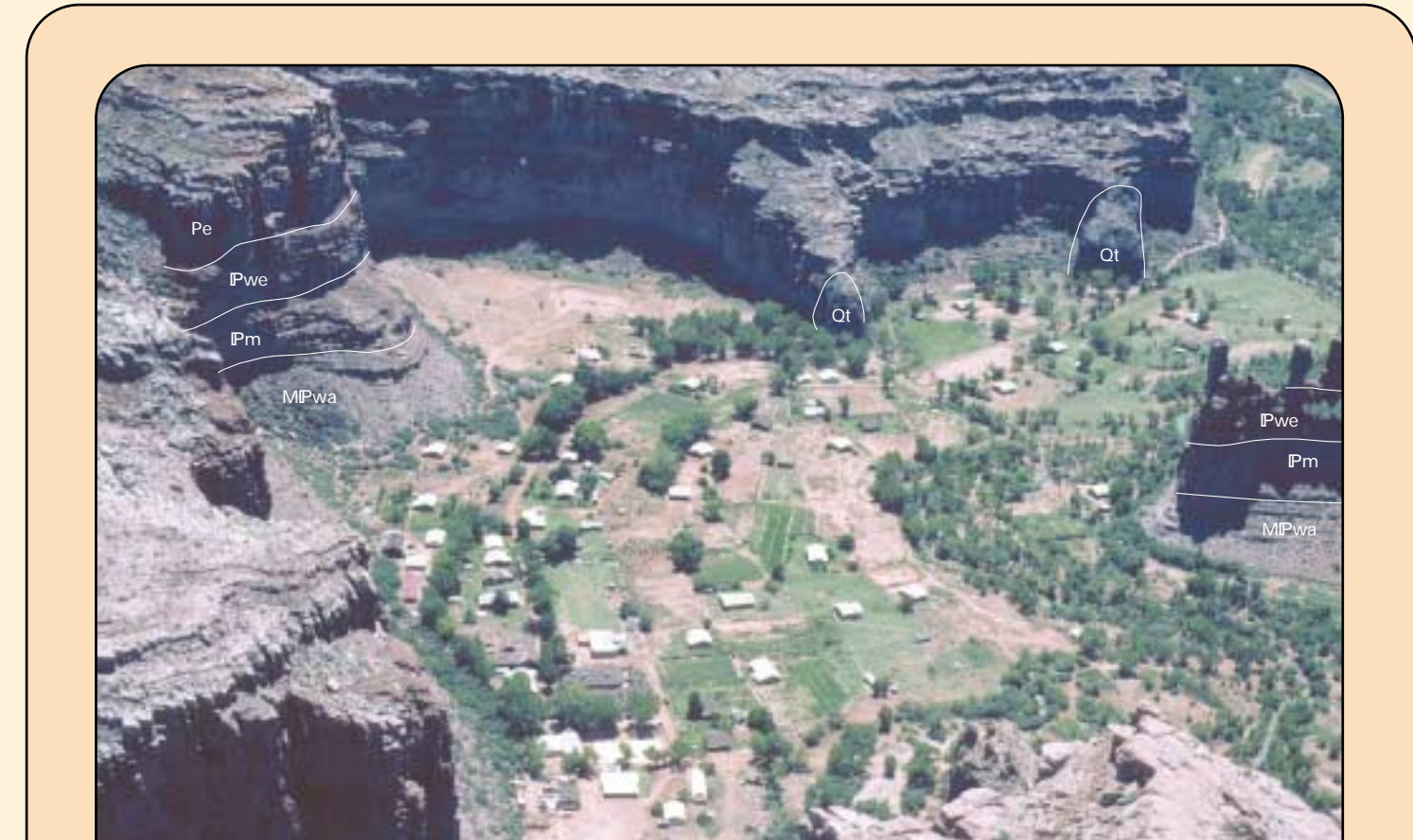


Figure 1. Aerial view looking south at Sigi at Kanab Canyon of Kanab Creek. Downstream Sigi is lower left of photo. The cliffs are those of the Sigi Group (Eplandale Sandstone (PE), Wescogama Formation (PW), and Washnongil Formation (PWV)), Manakacha Formation (MPW), Surprise Canyon Formation (MC), Redwall Limestone (RL), Temple Butte Formation (DB), Maus Limestone (CM), Bright Angel Shale (CB), and Tapscott Sandstone (CT). Unit CE is karstite deposits.

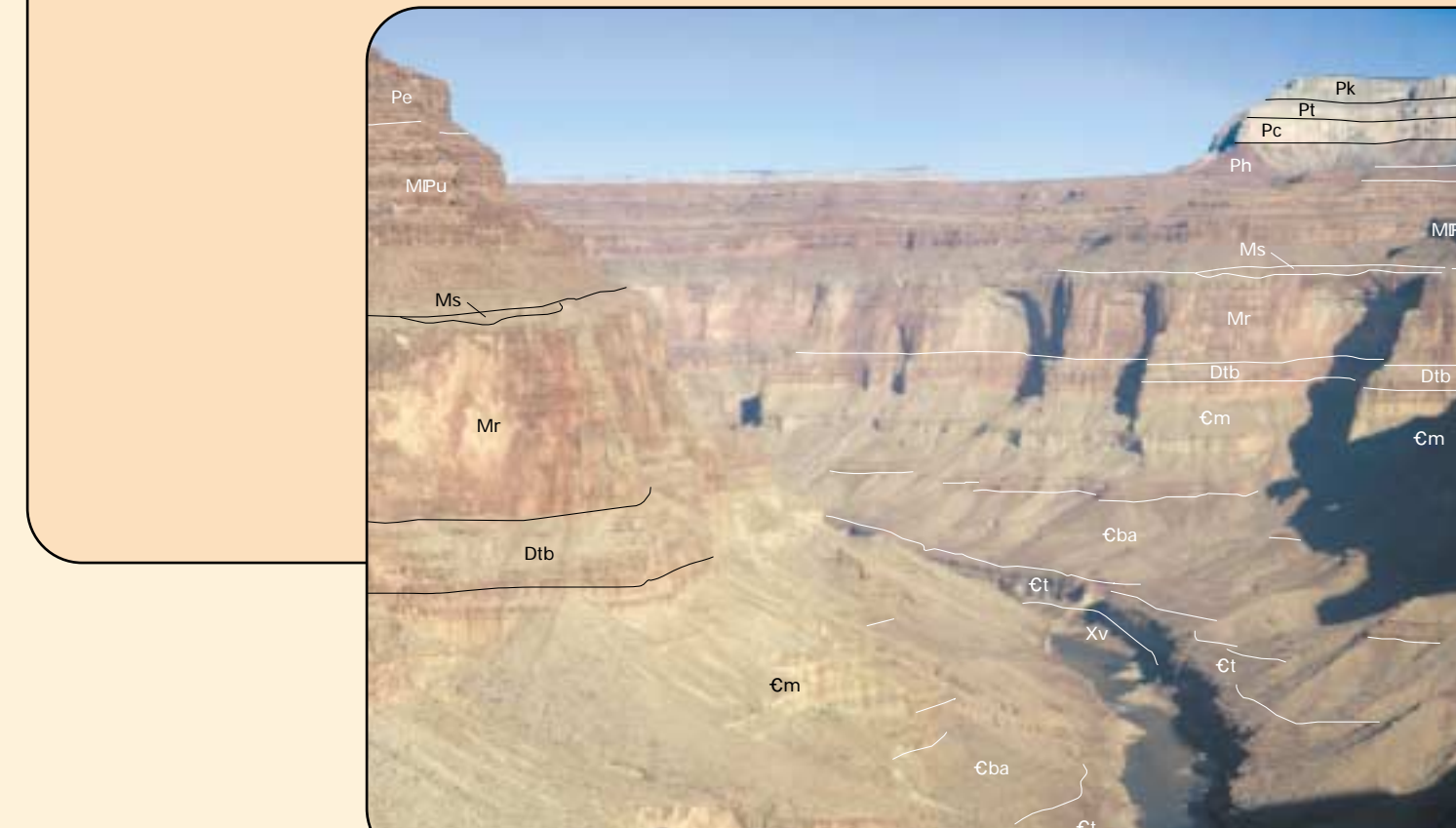
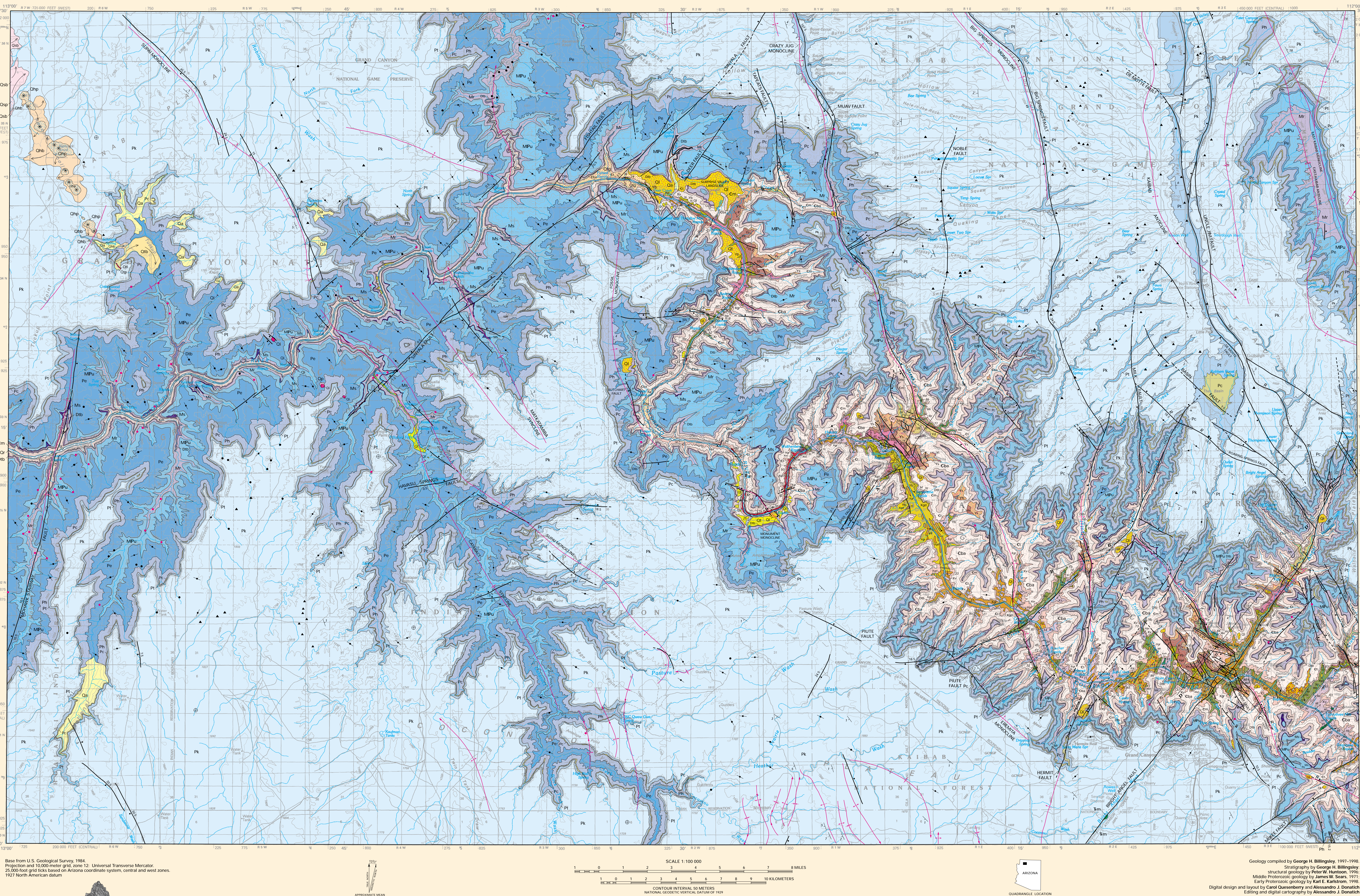


Figure 2. Aerial view looking north down Colorado River toward the southwestern end of Powell Plateau. Kanab Formation (PK), Torowop Formation (PT), Cocconino Sandstone (CC), Hermit Formation (HP), Eplandale Sandstone (PE), Wescogama, Manakacha, and Washnongil Formations, undivided (MPW), Surprise Canyon Formation (MC), Redwall Limestone (RL), Temple Butte Formation (DB), Maus Limestone (CM), Bright Angel Shale (CB), and Tapscott Sandstone (CT). Photograph by G.H. Billingsley.



Panorama from Point Sublime, looking east. From original drawing by W.H. Holmes. From U.S. Geological Survey Second Annual Report (1880-1881).



Grand Canyon. West looking, low-oblique image of the Grand Canyon, Aztec, taken from the Space Shuttle in February 1994. IST9000-083-005. The river crosses the Redwall Limestone (north of the canyon) and the Cocconino Plateau (south of the canyon) are visible. The western portion of the Painted Desert can be seen east of the canyon where the Little Colorado River joins the Colorado River. Source of image: <http://earth.jhu.nasa.gov/lowers.cgi?PHOTO1-57060-083-005>

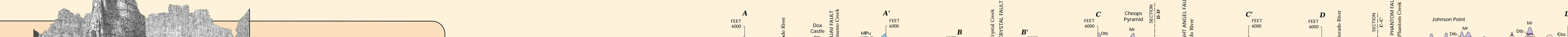


Figure 3. Aerial view looking northward towards Shinumo Creek and Powell Plateau. Faults are not shown because of perspective problems in this view. Only general contacts in Late Proterozoic units are shown as a general guide to this complicated region. Paleozoic rocks: Kanab Formation (PK), Torowop Formation (PT), Cocconino Sandstone (CC), Hermit Formation (HP), Eplandale Sandstone (PE), Wescogama, Manakacha, and Washnongil Formations, undivided (MPW), Redwall Limestone (RL), Temple Butte Formation (DB), Maus Limestone (CM), Bright Angel Shale (CB), and Tapscott Sandstone (CT). Proterozoic rocks: unnamed diabase sills and dikes (Y), Shinumo Quartzite (YS), Hakatai Shale (YS), Basal Formation (YB), and Balhoma Schist (DB). Photograph by G.H. Billingsley.

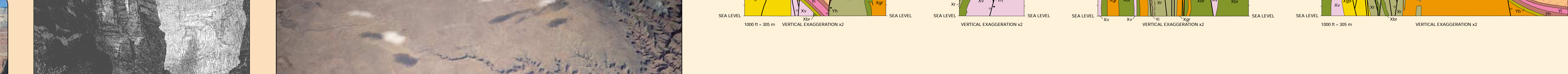
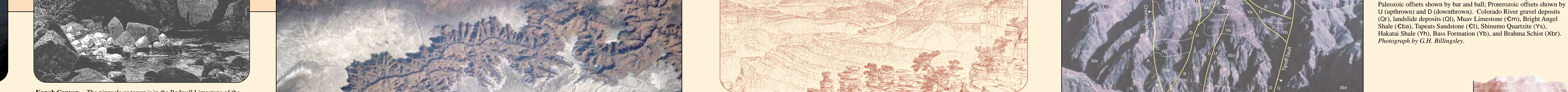


Figure 4. Aerial view looking southeast toward the mouth of Bright Angel Creek. Bright Angel Campground (C), lower part of south Kanab Trail (A), Bright Angel Trail (B), and lower bridge crossing (C) of the Colorado River. View shows a Proterozoic age graben that is seen as a Paleozoic bend between the Cocconino and Tapscott faults. Paleozoic offsets shown by bar and ball. Proterozoic offsets shown by U (upthrown) and D (downthrown). Colorado River gravel deposits (CR), landslide deposits (DL), Maus Limestone (CM), Bright Angel Shale (CB), Tapscott Sandstone (CT), Shinumo Quartzite (YS), Hakatai Shale (YS), Basal Formation (YB), and Balhoma Schist (DB). Photograph by G.H. Billingsley.



Panorama from Point Sublime, looking west. From original drawing by W.H. Holmes. From U.S. Geological Survey Second Annual Report (1880-1881).

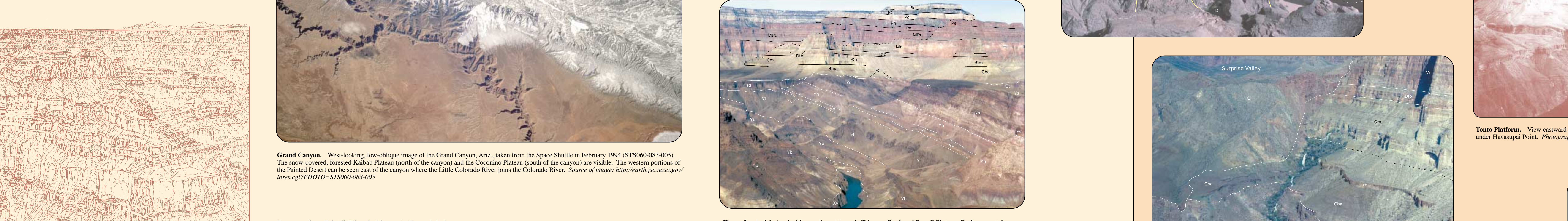
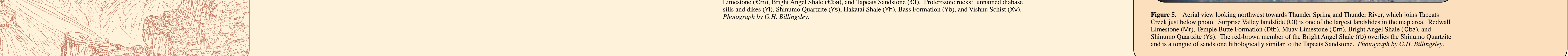
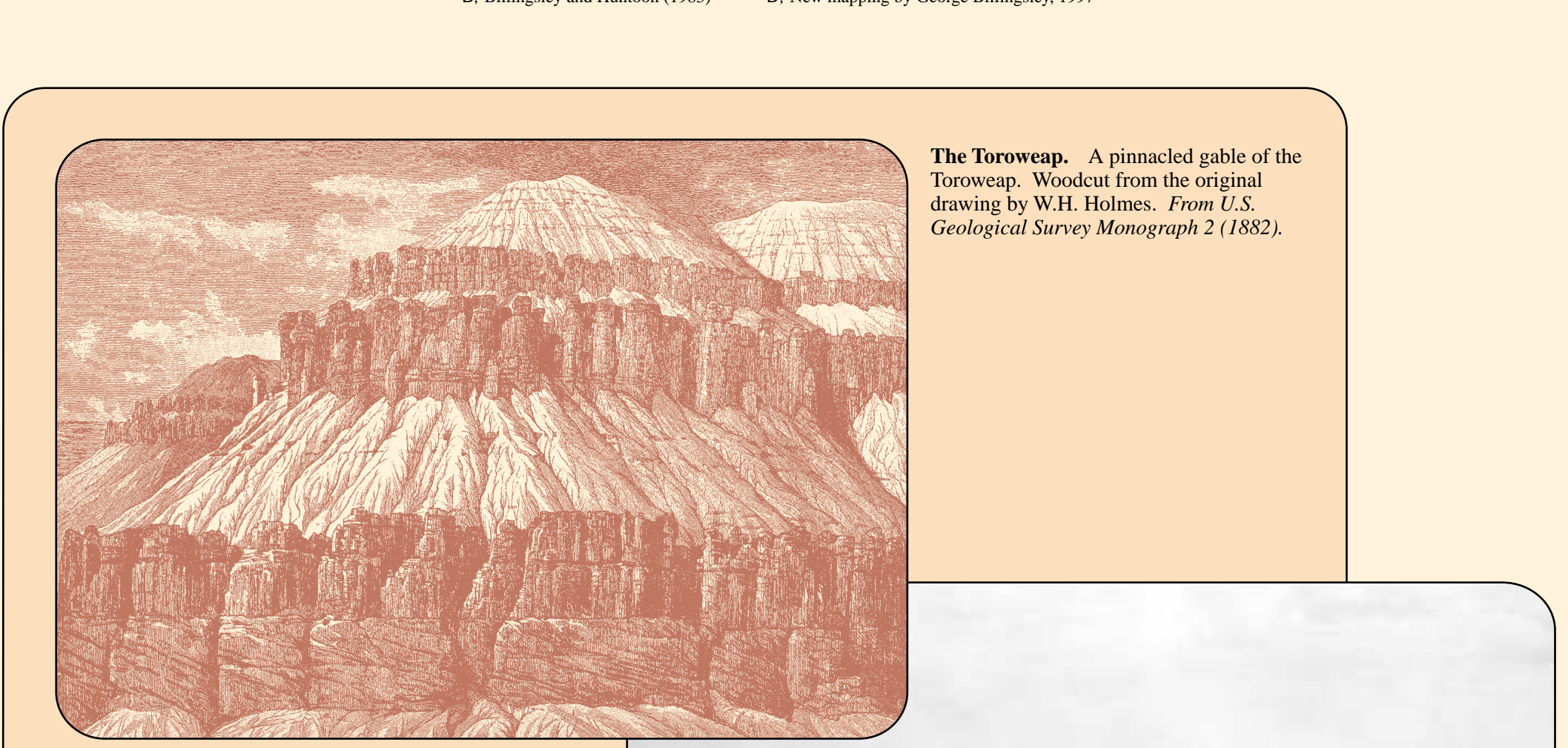
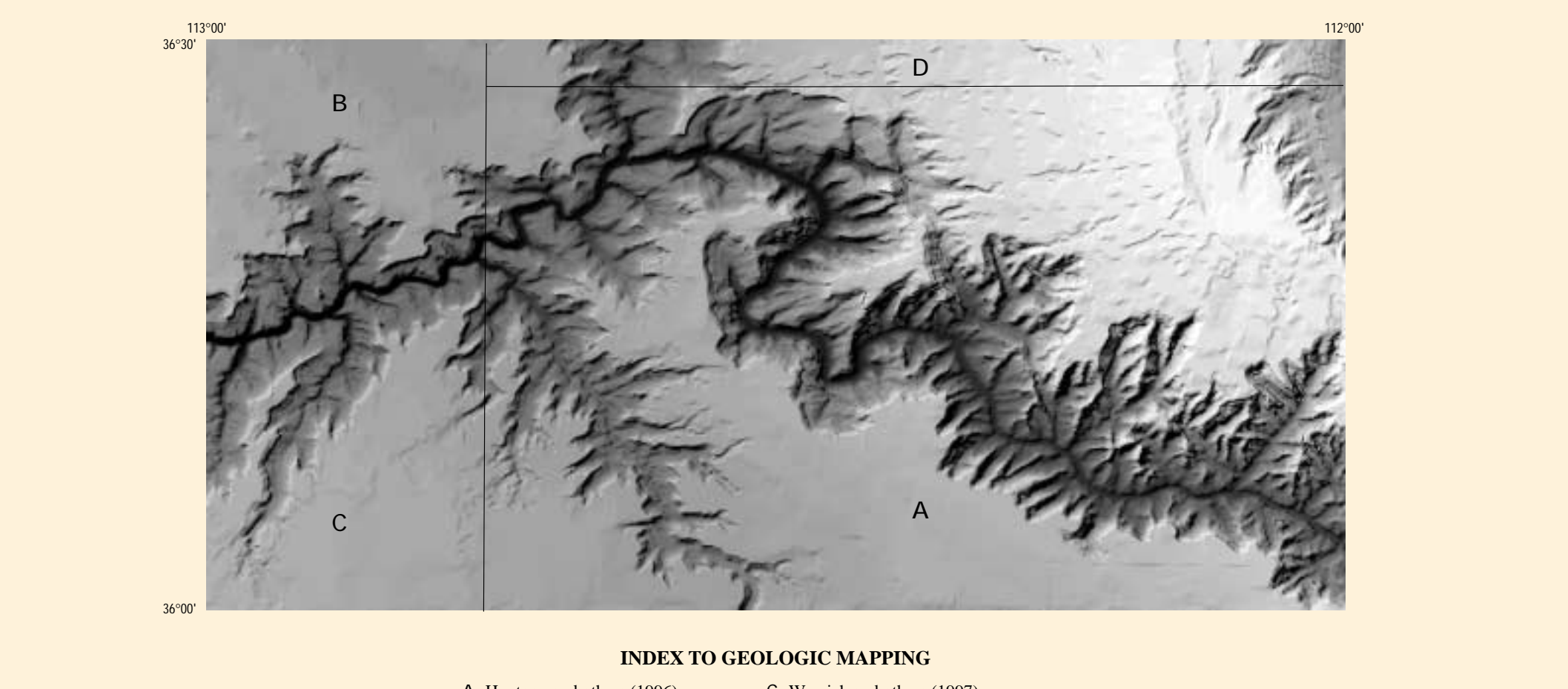
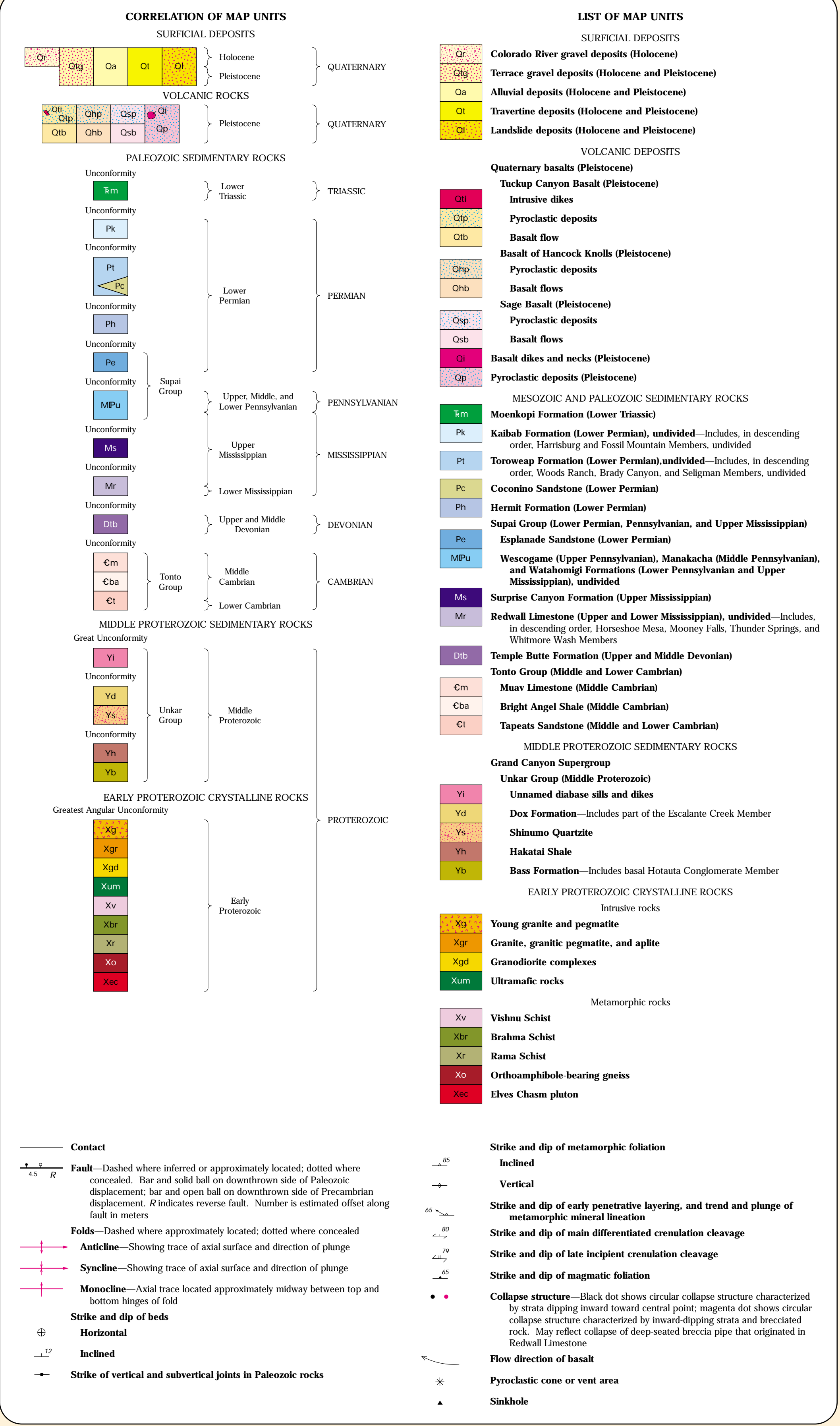


Figure 5. Aerial view looking northeast towards Thunder Spring and Thunder River, which joins Tapscott Creek just below photo. Surprise Valley landslide (QL) is one of the largest landslides in the map area. Redwall Limestone (RL), Temple Butte Formation (DB), Maus Limestone (CM), Bright Angel Shale (CB), and Shinumo Quartzite (YS). The red-brown member of the Bright Angel Shale (YB) overlies the Shinumo Quartzite and is a wedge of sandstone lithologically similar to the Tapscott Sandstone. Photograph by G.H. Billingsley.



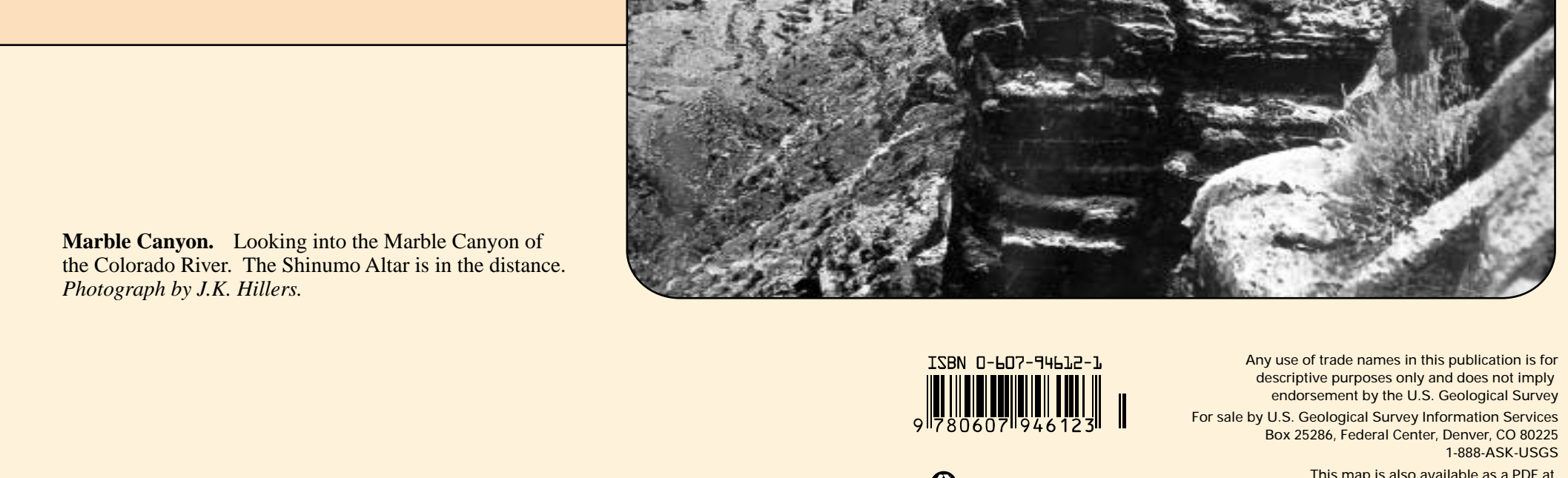
Marble Canyon. Looking into the Marble Canyon of the Colorado River. The Shivomo Abut is in the distance. Photograph by J.K. Hillier.



The Torowop. A pinnacled gable of the Torowop. Woodcut from the original drawing by W.H. Holmes. From U.S. Geological Survey Monograph 2 (1882).



Yonki Platform. View eastward up Kanab division of Grand Canyon from level of the Eplandale directly under Havasupai Point. Photograph by N.W. Curdick.



Marble Canyon. Looking into the Marble Canyon of the Colorado River. The Shivomo Abut is in the distance. Photograph by J.K. Hillier.