

Geology of the Basinal and Shallow-Water Carbonates of Eastern Missouri with Evidence of Cambrian Storm Events!

Leader – Jim Palmer

Date – Sunday, October 5, 2025

Time – 7:00 am – 6:00 pm

This tour showcases the interplay of regional scale basins with the shallow water carbonate deposition of the east side of the Ozark uplift! This tour will focus on the “East Flank” geology of Missouri, where the Ozark Dome has a steep dip on the eastern side and hosts a wedge of platform facies carbonates and associated extensional fractures. This depositional environment ultimately became the ore host for the “Old Lead Belt” of Missouri that was mined until 1972. Given the uplift on this side of the St. Francois mountains, there is opportunity to see these 500Ma rocks exposed in a variety of intriguing roadcuts! One stop near Bonne Terre, Missouri, showcases large rip-up clasts that record a very violent storm or hurricane in the rock record!

This field trip will be led by Jim Palmer, an accomplished Missouri Department of Natural Resources (retired) carbonate and clastic geologist who is still very active in the field and has experience all over Missouri. This trip will be limited to 50 individuals. Multiple stops keep the group proximal to these stratigraphic units of the Derby/Doerun, Davis, Bonneterre, and Lamotte formations along with some of the pre-Cambrian units of the area. Jim’s experience brings excellent detail to this rewarding trip, along with the charm of the Missouri Mines State Historic Site, which will be a portion of the trip, along with the stop for lunch. This tour will depart to the host hotel at approximately 3 p.m.

There will be a surface roadcut-based tour. Light jackets and rain gear are recommended along with sturdy footwear and gloves.