

ALABAMA GEOLOGICAL SOCIETY FIELD TRIP 2018

Registration on the AGS website at <http://alageolsoc.org/index.html>

The Birmingham Miracle; Iron, Coal and Limestone Flux Organized by Timothy M. Chowns, University of West Georgia Andrew K. Rindsberg, University of West Alabama

The fortuitous combination of iron ore, coal and limestone flux that led to the meteoric growth of Birmingham at the end of the nineteenth century is world famous. During this year's field trip, we will revisit this storied history both from the perspective of geology and industrial archaeology. We will make stops at iron mines in Ruffner Nature Reserve and Red Mountain Park, coal mines and coke ovens at West Blocton, and limestone-dolostone quarries at the old Thomas Works. We will follow the trail of these raw materials to civil war era charcoal furnaces at Tannehill and twentieth century blast furnaces at Sloss and trace the route of the Birmingham Mineral Railroad that linked these resources. This industrial technology is now history; the last mines closed in 1970 and US Steel closed its blast furnace at Fairfield in 2015. Nevertheless, the iron industry has left an indelible footprint. At the former Thomas works and elsewhere the vertical integration of mines, coke furnaces, blast furnaces and workers housing are remarkable. The title of the field trip is a nod to the US Geological Survey Bulletin by Ernest Burchard, Charles Butts and Edwin Eckel (1910). Despite more than a hundred years of work the origin of the Birmingham and other ooidal ironstones is still an enigma. Lacking a modern analog, we will show that the Birmingham ores make an important contribution to our understanding of the depositional environment and microbial biogeochemistry of Phanerozoic ooidal ironstone.