

Thorn Hill Field Trip

Spring 2000.

Organized by the AAPG chapter: Field guide by Jennifer Wishner.

(Many figures and descriptions were taken verbatim from Walker (1985), and Byerly et al.(1986)).

What are we gonna see?

The Thorn Hill section is a great exposure of **almost all** the Paleozoic units in the Southern Appalachians. Rocks from the Cambrian to the Mississippian can be seen in roadcuts along a 8.8 mile stretch of U.S. 25E, in three stratigraphic sequences:

- 1) Cambrian Rome to Cambrian-Ordovician Knox.
- 2) lower Ordovician Chickamauga to lower Silurian Clinch.
- 3) Miss./Devonian Chattanooga to Mississippian Grainger).

The section is bounded by two faults (Copper Creek to the north and Saltville to the south).

Stop 1

Location 1A:

Describe the rock color, bedding, rock type, fossils, and sedimentary structures.

What do the characteristics you described above tell you about the environment in which these rocks were deposited?

Location 1B:

Describe the rock color, bedding, rock type, fossils, sedimentary structures and tectonic structures. What was the depositional environment?

Is this the same rock that we saw at Location 1A?_____ What are three possible explanations?

Stop 2

Location 2A (behind building + looking back toward Stop 1):

What type of topography did you see between Stops 1 and 2? Can you relate this to rock type? - Explain.

Location 2B (across road at bottom of driveway)

Describe the rock color, bedding, rock type, fossils, and sedimentary structures. Give it a proper rock name.

What was the depositional environment?

****PLEASE ONLY LOOK, DO NOT TAKE ANY FOSSILS!!****

Stop 3

Location 3A/3B:

Describe the rock color, bedding, rock type, fossils, and sedimentary structures.

What do the characteristics you described above tell you about the environment in which these rocks were deposited?

Location 3C:

Describe the rock color, bedding, rock type, fossils, and sedimentary structures. What was the depositional environment?

Is this the same rock that we saw at 3A/3B? _____ What is the most likely explanation for this?

How have the fossils changed from the ones we saw at earlier stops?

Explain the topography you see looking southeast from the parking lot.

Stop 4

Location 4:

Describe the rock color, rock type, and sedimentary structures. What is the likely environment of deposition?

Can you relate the rock type to topography? Using topography, predict what rock type we might see next.

Geologic Map



