

1979 AGS Field Trip

Payson Field Trip - Historical Geology (GLG 102)*

The purpose of the Payson field trip is to explore and analyze Paleozoic rocks of the Payson area for interpretation of paleo-environments and geologic history.

Check the weather forecast. Payson is 5000' elevation with strong sun. Hats, sunglasses, sunscreen and lip balm are recommended. Closed-toed shoes with support and grip are required. Bring a sack lunch and enough water/hydration for the day. We will eat lunch outside, and we will be outside all day. Gloves may be handy.

Also bring a notebook and pen/pencil in a backpack. You may collect samples. We will provide sample bags. We will usually be within 1 mile of our vehicles. Some hikes might be rugged for the less outdoorsy.

Instructors will bring HCl, sifters, sample bags, field boards, and loupes.

Payson Field Trip Road Guide

9:00 - Depart north on Highway 87 from [McDonald's](#) in Payson

[Stop 1](#) - [Tapeats Sandstone](#) contact. Pull off to the right ~5.2 mi from McDonald's.

10:00 AM - Depart

[Stop 2](#), 6.2 miles north from McDonald's along Highway 87. This is an ancient Devonian reef is on the power-line hill to NE of the road. Park to the left. Go **SLOWLY**. Look for the cattle guard. The place we're looking for is [here](#). We will eat lunch and then hike up to the site.

12:00 PM - Lunch

12:40 - Depart

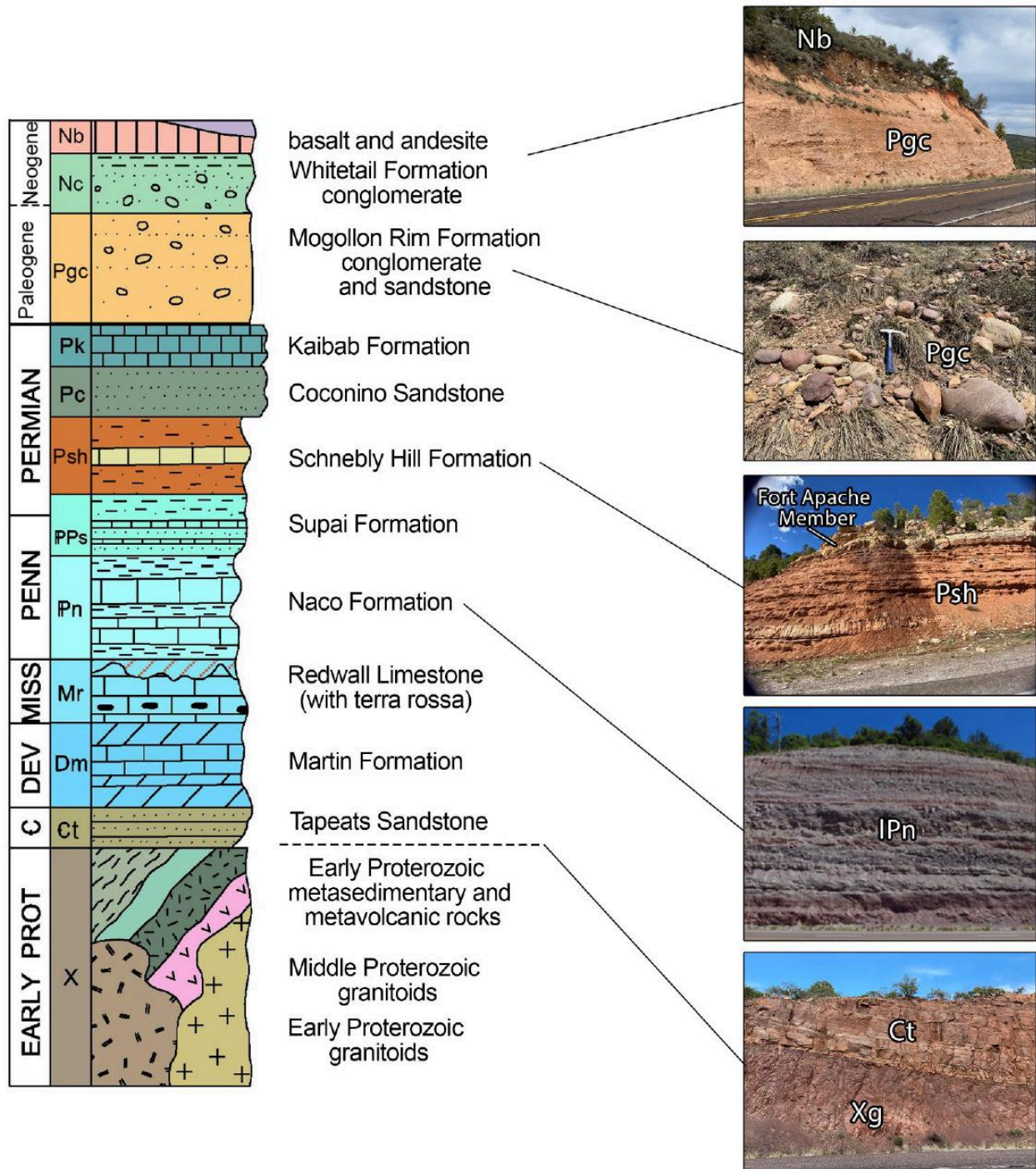
[Stop 3](#) - Paleo site. Pull off to the right. This is in the [Naco](#) formation which preserves fossils dating back to the Pennsylvanian including bivalve and gastropod molluscs, brachiopods, bryozoans, crinoids, cnidarians and sharks teeth. This stop is 14.9 miles east on highway 260 from the McDonald's. ([Hike Arizona](#))

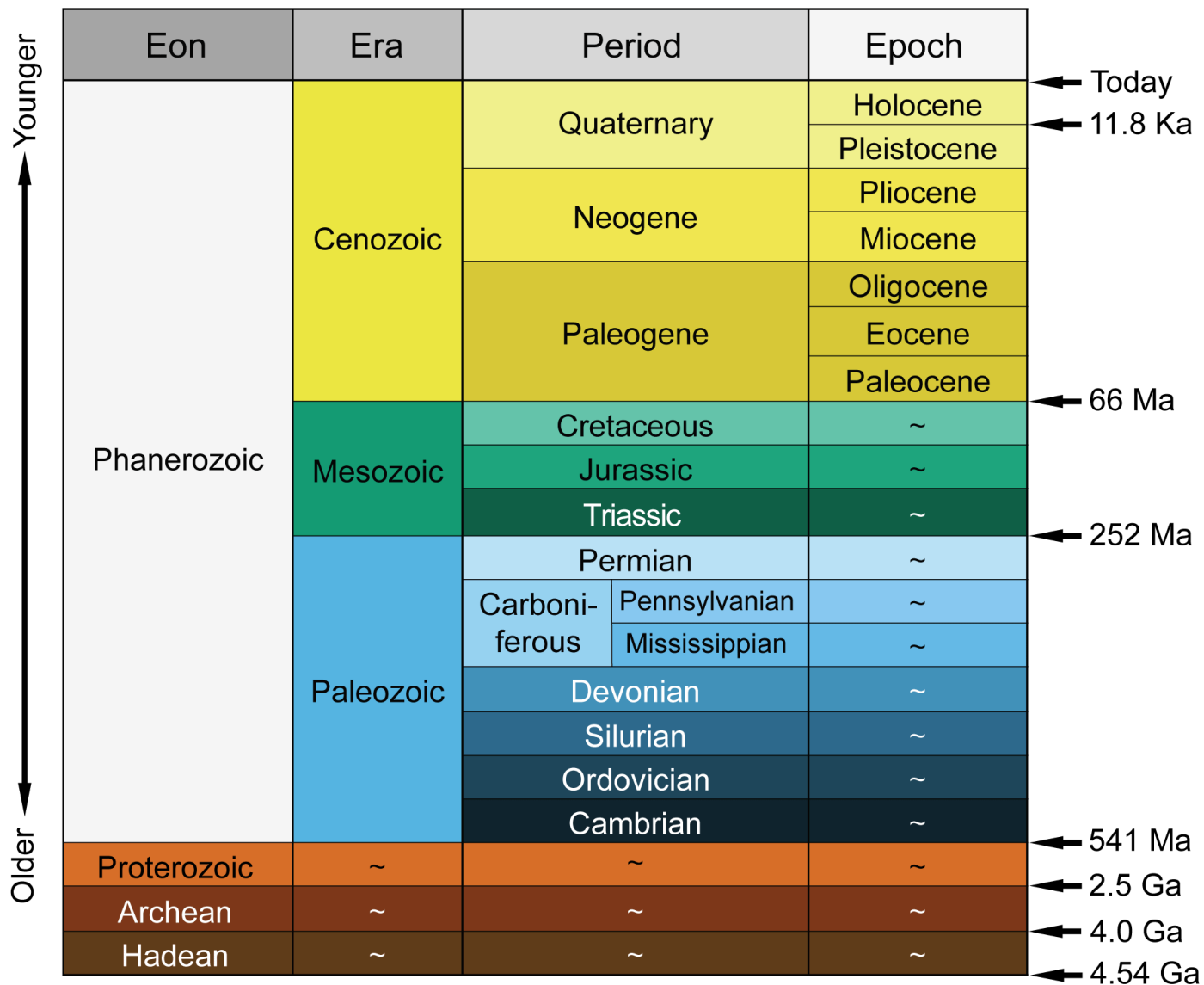
2:00 PM - Depart

[Stop 4](#) - [Mud cracks](#). Take Zane Grey Highway / Fish Hatchery Road north from 260. This is a narrow road up to the site. Carpool to have the least number of vehicles.

3:30 - Head home.

Schematic Stratigraphy of Mogollon Escarpment





Field Work - In the field we make observations. Take notes and photos. Collect discreet samples. Make marks on your maps.

Lithology – Descriptions and identifications of rock types

Rock Type and subtype

Rock mineralogy

Textures

Color, physical appearance

Stratigraphy - Rock Unit(s) Relationships

Formation names, units of rocks above and below

unconformities (type) and evidence

Absolute and time scale age

Paleontology – Fossils

Descriptions of physical appearance (morphology)

Symmetry and Phyla

Classification (as close and as specific as we can)

Habitat and paleo-environment

Depositional Environment – Interpretation and Evidence

Sedimentary Structures

Color

Fossils

Rock characteristics/sediment characteristics

Field Report

Purpose -

Course

By : Author (you)

For: Instructor, School, Date

Purpose of Field Work

Geographic Information

Location, Map, longitude latitude

Elevation

Geography of area

Life zone

Research

Rocks and general geologic history

Field Observations

Lithology

Stratigraphy

Paleontology

Depositional Environment

Vertical Section

Fill patterns

Captions and descriptions

Photos


Summary

Summary of geologic history based on fieldwork and research

Citations


Purpose

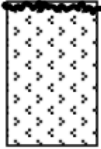
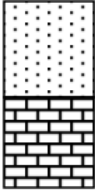
Geographic Information



Research

Field Observations





Vertical Section

Captions, Descriptions and Photos

Summary/Conclusions

Citations

Reading / Preparation References

[Interactive Geologic Map of Arizona](#)

Supai Group: 600-700 feet thick, 285 MYA Permian

[The Geology of the Grand Canyon](#)

[Supai Group](#)

[Supai Group](#) (Wikipedia)

Naco Formation: 310 MYA Pennsylvanian

<https://prezi.com/rdckqgxhnuo45/naco-formation-in-payson-arizona/>

<http://www.savalli.us/BIO113/113downloads/FossilIDGuide.pdf>

Redwall Limestone: 400-650 feet thick, 335 MYA Mississippian

[The Geology of the Grand Canyon](#)

https://en.wikipedia.org/wiki/Geology_of_the_Grand_Canyon_area#Supai_Group

Martin Formation: 295' variable, 374-367 MYA Devonian limestone, coral reef ecosystem near shore, dolomitized (dolostone)

[Dolostone / Dolomite](#)

[Supai Group](#)

Tapeats Sandstone: 100-300 feet thick., 545 MYA Cambrian

[Tapeats Sandstone](#)

[Tapeats Sandstone and the Great Unconformity | AZGS](#)

[Tapeats Sandstone - Wikipedia](#)

[The Geology of the Grand Canyon](#)https://en.wikipedia.org/wiki/Geology_of_the_Grand_Canyon_area#Supai_Group

<http://geology.swau.edu/faculty/tapeats.html>

Dripping Springs Quartzite, member of the Apache Group (probably) 1,200,000 MYA

[Geology at Tonto National Monument](#)

[UCMP Berkeley](#)

[Brachiopods](#)

[Bryozoan Fossil Record](#)

[The Paleozoic Era](#)

[Geologic time scale](#)

***Based on Roy's original items.**