

## **Proposed GSM Field Trip to Southeast Missouri**

This trip is proposed for late September or early October of 2023. The exact dates depends on another event Joanie and I will be attending afterwards in nearby Illinois. The dates for this event have not yet been announced. The weather we experienced during this time in 2022 was perfect.

We toured several of the sites during the last week of September of 2022. Sites we visited are listed first. Not scouted sites are listed at the end and would be scouted sometime before the field trip.

On this trip the sites visited will be easily accessible public lands (state parks and natural areas) with good parking. Roadside cuts will be avoided due their hazards and often problematic parking for a large group.

Much of SE Missouri is in the Ozark mountains. The mountains are composed of eroded granite batholiths and rhyolites that are well exposed. On the edge of the Ozarks are sedimentary rocks of similar age and composition to the rocks in southern Minnesota. Some of them host lead and zinc ores. The goal of this trip would be to observe both types of rocks and their contacts. Another goal would be to observe evidence of the New Madrid earthquake.

The itinerary below is very tentative. We don't want to announce to the general GSM membership until we get a chance to go back to Missouri and do some further scouting. However, we wanted to let the board know what we are hatching.

### 1) New Madrid Seismic Zone

We visited the New Madrid Historical Museum. Got a lead on a geologist named Phyllis Steckel, who might be able to lead us on a field trip in the area. Her company is Earthquake Insight. She would charge a fee if she can lead us for a day or two. See the link below for an idea of what she might lead us on.

Phyllis Steckel at 636-359-1955 or [psteckel@charter.net](mailto:psteckel@charter.net)

[https://sema.dps.mo.gov/earthquake\\_preparedness/field-trip.php](https://sema.dps.mo.gov/earthquake_preparedness/field-trip.php)

<http://www.newmadridmuseum.com/>

### 2) Bonne Terre Mine

We toured this historic underground lead mine. One hour land and boat tour for about \$30 /person. Our tour guide was Levi. He gave an excellent tour! Hopefully we can arrange for him to lead us. Galena crystals were visible in the walls of the mine.

<https://www.bonneterreminemine.com/>

<https://www.roadsideamerica.com/story/29468>

### 3) Missouri Mines State Historic Site

We visited this museum. Good background on the history of lead mining in the area. Nice mineral museum. Might be able to arrange a mill tour with a park ranger.

<https://mostateparks.com/park/missouri-mines-state-historic-site>

#### 4) Washington State Park

Nice set of petroglyphs carved into dolomite. Easy access. Ranger guided tour might be able to be arranged.

<https://mostateparks.com/page/77856/petroglyphs>

#### 5) Taum Sauk Mountain State Park

Nice campground and picnic area. Short, easy hike to highest point in Missouri.

Nice overlook for overview of St. Francois mountains.

The hike to the waterfall was rocky and steep. The waterfall was dry. Not recommended for entire group, but an end of day hike for those up to it might be worth it.

<https://mostateparks.com/park/taum-sauk-mountain-state-park>

<https://midwestnomads.com/2019/05/01/hike-of-the-week-mina-sauk-falls/>

#### 6) Elephant Rocks State Park

Nice loop trail that is handicap accessible. Huge rounded granite boulders. Historic granite quarry. We were there on a Sunday and it was very busy.

There are several “Missouri Granite” quarries nearby that we could contact for possible tours.

<https://mostateparks.com/park/elephant-rocks-state-park>

<https://midwestnomads.com/2019/06/20/trail-of-the-week-elephant-rocks-state-parkbelleview-mo/>

<https://dnr.mo.gov/document-search/granite-pub2906/pub2906>

<https://www.yellowpages.com/farmington-mo/granite-rock-quarries>

#### 7) Johnson’s Shut-Ins State Park

Short hike to the Shut-Ins area. Good exposure of porphyritic rhyolite.

We also did the Scour trail. About a 1 mile loop trail with good geology signage. Nice exposures of the unconformity between rhyolite and sandstone.

We missed the visitor’s center, which is only open Wed-Sun.

Huge campground. We camped in site 402 for 2 nights. Outstanding tent camping! Electric plugins available in picnic shelter. Warm showers. Overall, the best car camping we have done in several years!

<https://mostateparks.com/park/johnsons-shut-ins-state-park>

<https://midwestnomads.com/trips/johnson-shut-ins-state-park/>

<https://news.stlpublicradio.org/politics-issues/2015-12-13/ten-year-anniversary-of-reservoir-breach-that-flooded-johnsons-shut-ins-state-park>

8) We might be able to arrange a tour of this pumped storage hydroelectric dam. It is very close to stop 7.

<https://www.ameren.com/missouri/company/environment-and-sustainability/hydroelectric/taum-sauk>

9) Pickle Springs Natural Area

Nice hike through scenic valley cut into sandstone. Recommended route is clockwise to hoodoos and back out. The rest of the trail (clockwise) is more difficult and not worth it for a group.

<https://mdc.mo.gov/discover-nature/places/pickle-springs-natural-area>

<https://midwestnomads.com/trips/pickle-springs-natural-area/>

10) Hughes Mountain Natural Area

Steep climb to top of mountain. Good trail. Very worth the effort. Tolkien-like wonderland of columnar jointed rhyolite covered with lichens at top of mountain.

<https://mdc.mo.gov/discover-nature/places/hughes-mountain-natural-area>

<https://midwestnomads.com/2019/04/23/trail-of-the-week-hughes-mountain-natural-area-in-potosi-mo/>

11) Thee Abbey

Nice lunch spot. Restaurant is in the gym of a historic catholic school. Interesting antique store upstairs. Train museum and Amtrak depot across the street which was closed when we were there. Hours need to be checked prior to trip. Might be fun to try and time it when Amtrak train passes through.

<https://www.arcadiaacademy.com/>

12) Silver Mines Recreation Area

We did not scout this site. There is a short hike to a historic metal sulfide (lead, zinc, copper) mine from the campground. Rock collecting is allowed. Galena and sphalerite are likely to be found. Although galena is lead sulfide, it is safe to handle and collect.

<https://www.fs.usda.gov/recarea/mtnf/recarea/?recid=21840>

### 13) Knob Lick Tower Site

This site was recommended to us by a geology professor we met at a campground. We did not scout. From top of the mountain it is possible to visualize a Precambrian volcanic caldera. Needs further scouting, but was highly recommended.

<https://mdc.mo.gov/discover-nature/places/knob-lick-towersite>

[https://mdc.mo.gov/sites/default/files/mo\\_nature/downloads/conservation-areas/9120.pdf](https://mdc.mo.gov/sites/default/files/mo_nature/downloads/conservation-areas/9120.pdf)

### 14) Meramec Spring

We did not scout. A scenic spring with easy access.

<https://mdc.mo.gov/discover-nature/places/maramec-spring-park>

<https://midwestnomads.com/2020/10/30/explore-turquoise-waters-and-history-at-maramec-spring-park/>

### 15) Meramec State Park

Tours of cave available.

<https://mostateparks.com/park/meramec-state-park>

<https://midwestnomads.com/2021/09/14/take-a-cave-adventure-at-meramec-state-park/>

### 16) Onondaga State Park

Tour of cave available.

<https://mostateparks.com/park/onondaga-cave-state-park>

<https://midwestnomads.com/2022/07/06/explore-above-and-below-ground-at-onondaga-cave-state-park/>

### 17) Royal Gorge Natural Area

Looks interesting? We did not scout.

<https://mdc.mo.gov/discover-nature/places/natural-areas/royal-gorge>

<https://midwestnomads.com/trips/royal-gorge-natural-area/>

### 18) Castor River Shut-Ins

Also looks interesting?

<https://mdc.mo.gov/discover-nature/places/natural-areas/castor-river-shut-ins>

<https://midwestnomads.com/trips/castor-river-shut-ins/>

There are probably some roadcuts that are worth visiting. The area is covered well in “Roadside Geology of Missouri”.

The three books below are resources we used to scout the area and to plan further.

[https://www.amazon.com/Missouris-Natural-Wonder-Guidebook-Kurz/dp/1882906691/ref=sr\\_1\\_1?crid=GDYU497KN5FV&keywords=missouri%27s+natural+wonders+guidebook&qid=1668543129&srefix=missouri%27s+natural+wonders+guidebook%2Caps%2C86&sr=8-1](https://www.amazon.com/Missouris-Natural-Wonder-Guidebook-Kurz/dp/1882906691/ref=sr_1_1?crid=GDYU497KN5FV&keywords=missouri%27s+natural+wonders+guidebook&qid=1668543129&srefix=missouri%27s+natural+wonders+guidebook%2Caps%2C86&sr=8-1)

[https://www.amazon.com/Missouri-Geology-Billion-Volcanoes-Sediments/dp/0826208363/ref=sr\\_1\\_3?crid=1SLVP2PHVL4N&keywords=missouri+geology&qid=1668543183&srefix=missouri+geology%2Caps%2C94&sr=8-3](https://www.amazon.com/Missouri-Geology-Billion-Volcanoes-Sediments/dp/0826208363/ref=sr_1_3?crid=1SLVP2PHVL4N&keywords=missouri+geology&qid=1668543183&srefix=missouri+geology%2Caps%2C94&sr=8-3)

<https://www.amazon.com/Roadside-Geology-Missouri-Charles-Spencer/dp/087842573X>

This is a possible lodge that could serve as a base camp for the part of the trip in the Ozarks (but not New Madrid). Joanie and I stayed there in October 2022 for a conference. There are short hikes to a small cave and to a civil war cemetery on the property. They probably could provide sit down breakfasts and dinners and bag lunches if we chose to go that route.

<https://gwrymca.org/locations/ymca-trout-lodge/lodging>