

Department of Geology & Geophysics
University of Wyoming
23rd Annual Rocky Mountain Field Trip (GEOL4060)
August 30 to September 3, 2018
Sponsored in part by ConocoPhillips

List of Contents

- General Information, including summaries of 5-day itinerary and two maps of our route (6 pages)
- Safety Information (2 pages)
- Relevant Information for each day of the trip, including:
 - General geology of Wyoming
 - Wyoming License Plate Challenge
 - Information on Chugwater Fm (you will spend quality time with these rocks throughout the trip)
 - Bighorn Mountains region
 - Bighorn Basin
- Notes on cover photos:
 - We will drive past or stop at three of the four photograph locations that are on the cover. ***Can you identify these locations?*** By the end of the trip you should be able to name these locations.
 - ***Can you identify the fearless trip leaders captured in two of the photos?***
 - Finally, the cover of one of the field guides is different from all of the rest. ***Who has this field guide, and how does it differ?*** A prize awaits the person who identifies this guide
 - Cover photos courtesy of L. Vietti. Basement surface map after Blackstone, 1993, as rendered by T. Neely.

General Information

GEOL 4060 (1 credit hour, S/U) – Rocky Mountain Field Trip, lead by Drs. Ellen Currano, Eric Erselev, Ron Frost, John Kaszuba, Kate Miller, and Laura Vietti. This guidebook contains abundant material on the geology of Wyoming; please start to read and understand during the drive. The itinerary is described beginning on the next page and summarized in the table and on the two maps that follow.

On the first day (Thursday) we will drive to the Hole-in-the-Wall Ranch in the Bighorn Mountains. We will have one geology stop on this day, at the rest area at Bates Hole. On the second day (Friday) we will focus our efforts on the southern Bighorn Mountains. We will camp at the Iowa State Field Station in Shell, Wyoming on Friday night and for the remainder of the trip. On the third day (Saturday) we will focus our efforts in the Bighorn Basin. On the fourth day (Sunday) we will focus our efforts on the northern Bighorn Mountains. On the morning of the fifth day we will spend some time in the northern Bighorn Mountains on our return to Laramie. We expect to be home around dinnertime.

Although there will be a cook (Robert Kirkwood) and his assistant (Joshua Lemli) on this trip, we expect all the student participants perform kitchen chores, including washing dishes and overall cleanup. All student participants will be assigned to a kitchen detail for at least one dinner or one breakfast/lunch. These assignments will be made on **DAY 1** of the field trip.

Other Important Information

University rules forbid the transport of any alcoholic beverages in University vehicles. Please do not bring alcoholic beverages on this trip. If any trip leader discovers that a student has transported alcoholic beverages, illegal drugs, or firearms in a University vehicle, the student will automatically fail the course. These items will be confiscated and in some cases destroyed.

On Thursday we are camping at the Hole-in-the-Wall Ranch as guests of Mr. Peter Wold. No fires are allowed at the Ranch.

On Friday, Saturday, and Sunday we are camping at the Iowa State Field Station. Showers and indoor (flush) toilets are available here. We will be eating in the dining hall. The Field Station has specific requirements for daily cleaning. All participants will be responsible for adhering to these requirements. We do not know if we will be allowed to have campfires at the Field Station. We will inquire when we arrive.

Be “Bear Aware” (be alert, make noise, do not run) and follow all recommendations for safe conduct around bears and other wildlife.

Do not leave the campsite for any reason without informing one of the field-trip leaders. You need to tell the field-trip leader why you are leaving and where you are going.

Please carefully read the documents in this field-trip guide about safety during the field trip. As these documents state: ***Safety is our most important priority throughout the field trip.***

Itinerary

DAY 1 – Thursday, August 30st – Meet at the free University parking lot located at 30th and Willet at 11:30 am. Please note that while these parking lots are patrolled, there is the possibility of car vandalism (which as happened in the past in a different parking lot). The University will not cover expenses related to car vandalism, so park at your own risk. Please bring all your gear for the field trip to this site. The suburbans will be there for loading. You can park your vehicle on this University lot without a parking permit. Pre-trip discussions begin at 11:45; we will leave the parking lot at **12:00 pm!**

We will make two stops along the way. The first will be at the Bates Hole rest area, the second will be at the rest area in Kaycee, Wyoming. While at the rest area in Kaycee, the drivers will take the vehicles across the road and fill them with fuel.

Spend the night at the Hole-in-the-Wall Ranch.

DAY 2 – Friday, August 31st – Break camp. We will spend the day in the southern Bighorn Mountains.

Drive to the Iowa State Field Station in Shell, Wyoming for the night.

DAY 3 – Saturday, September 1st – we will spend the day in the Bighorn Basin.

Return to the Iowa State Field Station for the night.

DAY 4 – Sunday, September 2nd – We will spend the day in the northern Bighorn Mountains.

Return to the Iowa State Field Station for the night.

DAY 5 – Monday, September 3rd – Break camp. We will spend some time in the northern Bighorn Mountains during our return to Laramie. We will return to the University parking lot at approximately 6p.



	Day 1 Thursday August 30 th	Day 2 Friday August 31 st	Day 3 Saturday September 1 st	Day 4 Sunday September 2 nd	Day 5 Monday September 3 rd
Morning		<p>Discussion and Overview at Hole in the Wall</p> <p><i>Drive to Buffalo City Park for rest stop (Stop 2.1)</i></p> <p>Stop 2.2: Clear Creek Thrust</p>	<p>Introduction to Paleogene Strata</p> <p><i>Drive to PETM near Powell, WY (Stop 3.1)</i></p> <p>Stop 3.1: PETM Hike and Exercise, Polecat Bench</p> <p><i>Drive to Relocation Camp (Stop 3.2)</i></p>	<p><i>Drive into Bighorn Basin</i></p> <p>Stop 4.1: Cretaceous Units and Intro to Laramide</p> <p>Stop 4.2: Cretaceous Puzzle</p> <p><i>Drive to Cloverly (Stop 4.3)</i></p>	<p><i>Drive to Shell Falls</i></p> <p>Stop 5.1: Shell Falls</p> <p>Stop 5.2: Granite Stop, Bighorns</p> <p>Stop 5.3: Sand Turn Overview</p> <p><i>Drive to Dayton</i></p>
	Stop 1.1: Meet at 11:30 am at 30th st. parking				
Lunch	Bring your own, eat in car	Stop 2.3: Tie-Hack Reservoir	Stop 3.2: Heart Mountain Relocation Camp	Stop 4.3: Cloverly Fm.	Stop 5.4: Scott Bicentennial Parky in Dayton, WY (get gas)
Afternoon	<p>Stop 1.2: Bates Hole Rest Stop (Bathrooms and Discussion)</p> <p>Stop 1.3: Kaycee Rest Stop (Bathrooms and gas up)</p> <p><i>Drive to Hole in the Wall Ranch in Southern Bighorns (Camp 1)</i></p>	<p>Stop 2.4: Powder River Pass and Exercise</p> <p>Stop 2.5: Bathroom break at Willow Park or Tensleep</p> <p><i>Drive to Iowa State Camp, Shell WY (Camp 2)</i></p>	<p><i>Drive to McCullough Peaks</i></p> <p>Stop 3.3: ETM2 Fossil Plant Excavations</p> <p>Optional Stop 3.4: Red Gulch Tracksites</p> <p><i>Drive to Iowa State Camp, Shell WY (Camp 2)</i></p>	<p>Stop 4.4: Permian Goose Egg Fm hike</p> <p>Stop 4.5: Bighorn Project Discussion</p> <p><i>Drive to Iowa State Camp, Shell WY (Camp 2)</i></p>	<p><i>Return to Laramie - Stop at Kaycee Rest area: Stop 5.5</i></p> <p><i>-Stop at Bates Hole rest area: Stop 5.6</i></p> <p>Arrive in Laramie ~ 6pm (Stop 5.7)</p>
Camping Location	Hole in the Wall Ranch (Camp 1)	Iowa State FC, Shell WY (Camp 2)	Iowa State FC, Shell WY (Camp 2)	Iowa State FC, Shell WY (Camp 2)	