Field Trip Workbook	NAME:	
G200 Field Studies—Sec 00	1 (Mt St. Helens	s north)
Fall, 2022	•	•
Instructor: Alex Ruzicka		
TA: Darlene Gilroy		
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Use this workbook to answer the following questions about the geology at the stops we will be making. If you need extra space, add answers to the following pages if space is provided or to the back of the pages.

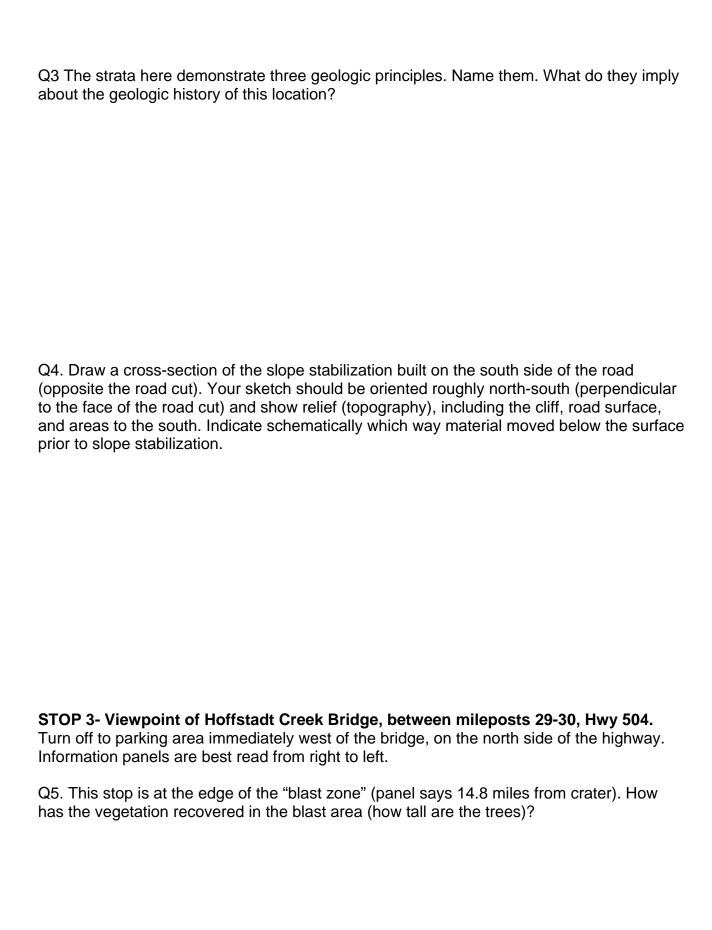
Castle Rock. Exit 49 on I-5, start of drive on Hwy 504.

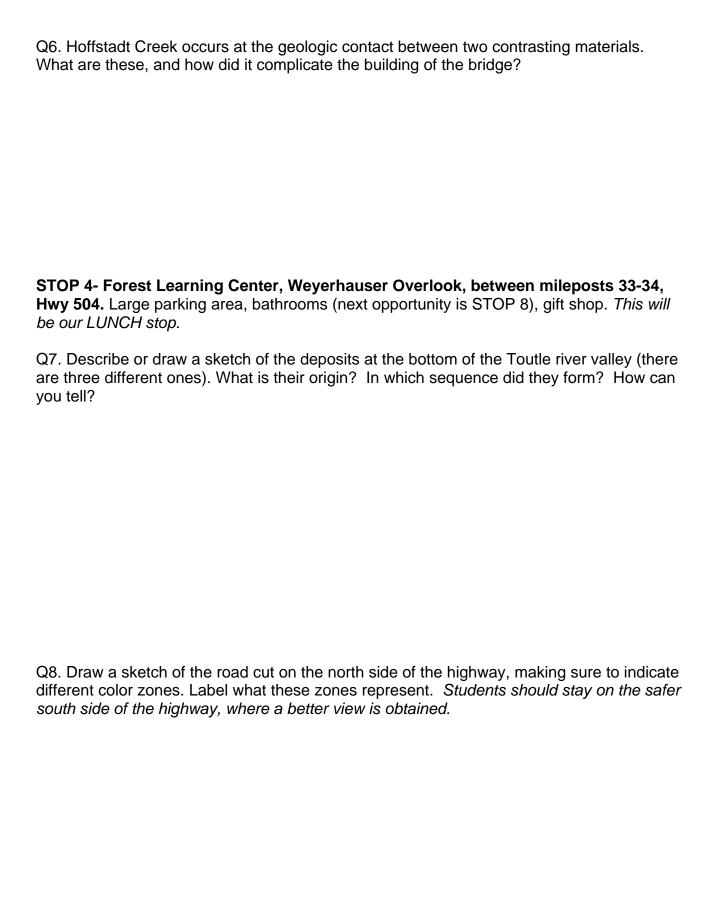
STOP 1- Silver Lake Visitor Center, 5.1 miles from I-5. Bathroom break & coffee. This will be your last chance for a bathroom until STOP 4.

STOP 2- Road cut between mileposts 24-25, Hwy 504. Bus can stop on east side of shoulder. Students should stay on the safer south side of the highway where the pullout is located and where a better view is obtained.

Q1. What type of rock makes up this outcrop? How were these rocks formed? What is the age of the rocks?

Q2. What structural features cross-cut the strata?



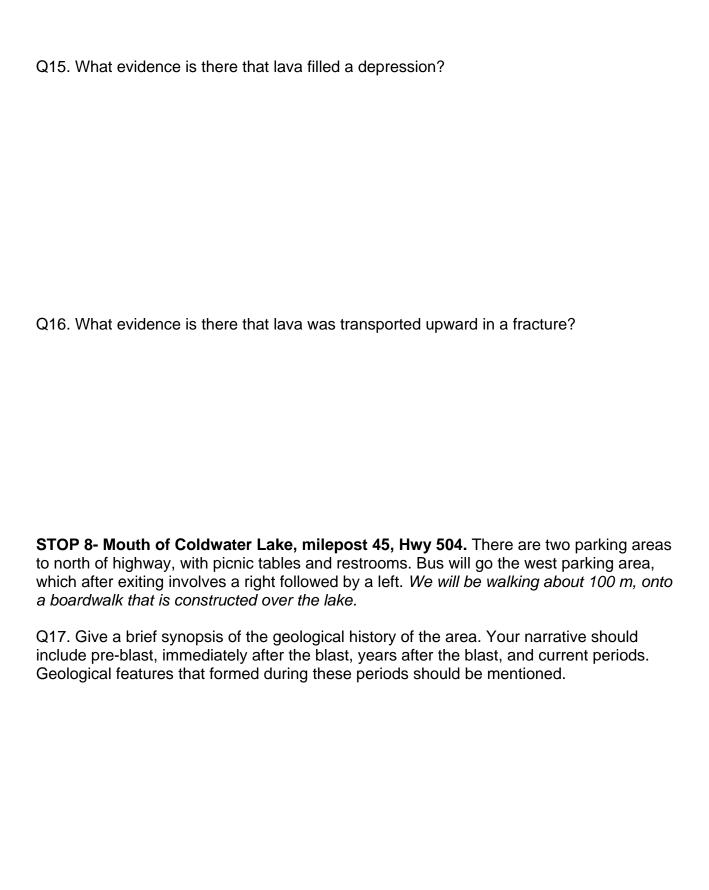


STOP 5- Road cut just past milepost 38, Hwy 504. Q9. What is the name of the prominent feature visible in the road cut and how did it form? Was this feature primarily produced by mechanical or chemical weathering? How can you tell? Use words and sketches. Q10. What evidence is there at this stop for slope failure? What mitigation efforts have been performed, and have they been successful? STOP 6 (optional) Castle Lake Viewpoint, between milepost 40-41, Hwy 504. Large parking area.

Q11. What type of deposit is in the Toutle river valley below Castle Lake, and how does it

differ from that at Stop 4?

Q12. What is the relationship of the deposits in the Toutle river valley to Castle Lake?
Q13. Closer to the base of Mt. St. Helens, one can see the relatively flat Pumice Plain. What is the origin of this plain?
STOP 7- Road cut immediately after milepost 42, just east of the Maratta Creek Bridge, Hwy 504.
Q14. After walking the length of the outcrop, draw a sketch of the rock features exposed in the road cut on the north side of the highway. Your sketch should show different rock units and some structural features.



STOP 9. Loowit Viewpoint, between mileposts 50-51.

A good view of the mountain can be obtained from this viewpoint without going the last distance to the Visitor Center. The main activity here will be a group photo! No questions, just fun.

RETURN TO PORTLAND.

Q18. Keep track of the mileage and the amount of time it takes for the bus to drive back to the edge of the blast (i.e. singe) zone. Based on your knowledge of the geology, and assuming driving the same road we will be driving, do you think you would have survived and made it to safety on the day of the eruption? Explain. See relevant eruption facts below.

Relevant eruption facts:

Lateral blast—575-750 F (300-400 C) in blast zone, 120-390 F (50-200 C) in singe zone, moved an average of 450 mph (724 km/h).

Pyroclastic flows—mainly 570-1350 F (300-730 C), moved at 50-80 mph (80-130 km/h), traveled 5 miles (8 km).

Debris Avalanche—160-212 F (70-100 C), moved up to 180 mph (290 km/h), traveled 14 mi (22 km) west in the Toutle river valley.

Lahars—not hot, traveled up to 90 mph (145 km/h).

ON THE BUS RIDE BACK TO PORTLAND, DON'T FORGET TO TURN IN YOUR WORKBOOK TO THE T.A. OR BE PREPARED TO E-MAIL IT TO US BY THE DEADKINE (Oct. 21)