Geol 101 Field Trip: Fall 2007

Name: ___________________
Favorite rock: ______________

Stop 1: Palouse Hills Overlook

What are the four main elements of the geology? (from oldest to youngest)

1. ______________
2. ______________
3. ______________
4. ______________

Draw a geologic cross section view across the Palouse region:

Stop 2: Granite Point

Identify the type of rock that makes up Granite Point: _______________________

What minerals do you see (at least three)? ___________________________________

Did this rock form at the Earth’s surface? If not, how did it get here? ________________

_____________________________________________________________________

What type of boundary or contact exists between the Columbia River basalt and the
underlying rocks? _______________________

What do we call the ancient soil horizon along this boundary? ________________

What does this ancient soil horizon tell us about what was happening here 16 million
years ago?

_____________________________________________________________________
Stop 3: Basalt, basalt everywhere!

What does the layering of the basalt across the river indicate?
___________________________________________

The boundary between lava flows is marked by basalt with lots of gas bubble holes in it. What do we call this type of basalt? ________________________________

What other type of feature is visible in the lava flow? ________________________________

What does this feature tell us about the environment in which these basalts were extruded? ________________________________

Stop 4: Somethin’ funky is goin’ on here!

What do we call basalt with lots of vertical fractures in it? ________________________________

How do these fractures form? ________________________________

What other type of geologic feature forms in a similar way? ________________________________

What has happened to the basalt lava flows along the Snake River here that is different to further downstream? ________________________________

What do we call this type of structure? ________________________________

When must have the Lewiston fold have formed? ________________________________

Stop 5: Whence the mysterious white layer??

What is the white layer exposed across the gulch? ________________________________

How was the white layer produced and when did this happen? ________________________________

LUNCH BREAK
Stop 6: Lewiston is goin’ DOWN!!

What evidence is there to indicate that there is a landslide across the river?

What do we call this type of landslide? ________________

Stop 7: The Riddle of the Snake River Island

What evidence supports the idea that the island in the Snake River was formed by an unusually large flood? __________________________________________________________

What was this flood called? ________________________________

When did the flood occur? ________________________________

Why did the flood occur? ________________________________

When did the Missoula flood occur? ______________________

What caused the Missoula flood? ______________________________

What was unusual about the Missoula flood water when it flowed along this canyon?

_____________________________________________________________________

Stop 8: Anyone got an ark?

What deposited these sediments way above the river valley? ______________

What type of sediment is it (look at the grain size)? __________________________

What type of sedimentary structures can you see? __________________________

How can we tell that the Missoula flood must have happened AFTER the Bonneville flood? ______________________________________________________________
Stop 9: Once upon a time….

Describe the geological development of this region, from oldest to youngest events.

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Let’s head on home!