

## IDAHO MUSEUM OF MINING AND GEOLOGY



### Field Trip Road Log

**April 12, 2014; Volcanoes and Floods Near Twin Falls, Idaho**

**Leader: Dr. Paul Link**

**Note: odometers vary, mileages are approximate. Also, GPS values vary over time, but the listed points will get you within visual range of the features described.**

**To Stop 1:** From the Museum, drive to Warm Springs Avenue, turn **Right** and go to Broadway Avenue, turn **Left** and proceed to the **I-84 Eastbound Onramp**. Travel east on the Interstate to Exit 173, U.S. 93 and turn **Left** (North). Proceed to the Town of Shoshone and Zero your odometer at the junction of U.S. 93 and Highway 75 just north of the railroad tracks. Drive approximately 17.6 miles to a faint two-track dirt road on the **Left** (to double check this location, it is 1.2 miles north of the Ice Caves turnoff). GPS location is N 43.182729; W 114.330810. **The road toward Black Butte is very rough, high clearance and all-wheel drive is recommended; also, there is risk of scratching from sagebrush.** If you choose to park on the side of Highway 75, the hike in is about 0.4 miles. At GPS N 43.182810; W 114.334598, there is a fork to the right. This dirt road winds around to the north and eventually climbs up the flank of the volcano to a location (GPS N 43.183729; W 114.349211) where you can maneuver to get a look into the Black Butte Crater that was once a lava lake. The flows from here split the Big and Little Wood Rivers, forcing them west and east, respectively. The total hike is about 1.5 miles to the crater. Footing is very unstable on coarse lava, take abundant caution; hiking poles are highly recommended. Take lots of water in all seasons; watch for snakes in warm weather; carry a cell phone, let someone know where you are going and your expected return time.



**To Stop 2:** Return to Highway 75 and reverse your course toward Twin Falls. Pass under the Interstate and turn **Left** on Shoshone Falls Road (Golf Course Road to the right) at the traffic light just before the Perrine Bridge. Take Shoshone Falls Road for 2.5 miles and park on the **Right** just before the road changes to Canyon Road and heads downhill. Walk about 120 yards to get a good look at Shoshone Falls (don't fall over the edge of the cliff!). Shoshone Falls is formed by a ledge of light-colored rhyolite that is more durable than the black basalt above it. The Bonneville Flood carved the canyon above and below the falls about 17,500 years ago, with flows estimated at 10,000,000 cubic feet per second. Overland flows in this area caused a "scabland" in which the soil was removed by the flood and has not yet been replaced.



Shoshone Falls from the north side

For more exploration of Snake River Canyon geology, continue toward the Perrine Bridge and pull off into the parking area on the **Right** just before the bridge abutment. Take the stairs down to the viewing platform under the bridge and look at the lava. At the bottom of the outcrop, there is blocky, rounded pillow lava with a glassy outer texture – this was deposited in water and cooled rapidly. Above this, the lava is lighter in color and was deposited in air. You can admire base jumpers from the east side of the viewing area!

Drive over the bridge and turn **Right** at the first stoplight, Bridgeview Blvd. Go **Right** at the roundabout and park in the Visitor Center lot. Walk out to the viewing platform past the statue of Ira Perrine. On the north side of the canyon, you can see a pale layer of sediments that were most likely deposited in a small lake, with basalt lava flows above and rhyolite below. The top of the rhyolite is a "breccia" or broken up deposit most likely deposited as a landslide as the caldera collapsed

To see Shoshone Falls from the south side, return to Bridgeview Blvd. and go **straight** through the stoplight. Follow Bridgeview around the curve and turn **Left** on Pole Line Rd. and follow it around the curve, where it becomes Eastland Drive North; Take Eastland to E 4000 N (Falls

Ave.) and turn **Left**. Follow Falls Ave. to Champlin Rd. and turn **Left** (sign for Shoshone Falls); this will wind down to the Shoshone Falls City Park (Fee \$5.00) where you can admire the views of the falls and power plant. The light colored rhyolite forms the sill over which the falls flow. The breccia layer is well seen across the canyon as a rubbly area at the top of the rhyolite.

After viewing the falls, return to the exit road, but stop in a pull out on the Right about 325 yards from the falls parking lot. Across the road (be careful of traffic) about 70 yards up from the parking area, you can get a closer view of the breccia deposit, which is topped by a stream deposit and then a basalt flow. Go up the road another 50 yards, to a spring area where water is being forced out between impermeable rhyolite and the more porous basalt above. A thin stream deposit is also visible here. Retrace your route back to Highway 93 (N 3000 E).

**To Stop 3:** Return to U.S. 93 and take the on-ramp toward Boise. Drive on the Interstate to Exit 147 (Malad Gorge State Park Exit) and follow the signs to the Park. From the parking area you can walk out over the Gorge on the pedestrian bridge after reading the interesting information in the kiosk. The Malad River begins just upstream from here as the extension of the Big Wood River. There is some controversy about how the Gorge was formed – one catastrophic flood of the Big Wood River, or many floods over centuries. Some dating methods place the age of the Gorge at about 45,000 years ago, well before the Bonneville Flood. The amount of water needed to carve the Gorge seems out of scale from what the Big Wood could have passed through its “Black Canyon” upstream near Stop 1. (See the 10/5/2013 Field Trip Log). But, the course of the river has been altered by volcanic activity over the millennia. Another problem with a catastrophic flood theory is that there is no obvious “scabland” above the Gorge that would have been caused by the volume of water necessary to carve it. Could the scabland have been covered by blown-in soils in the extra 30,000 years that this area has had compared to the scablands at the Perrine Bridge?



Malad Gorge