The Mohegan Trail at Bolton Notch State Park.

This State Park, home to a US Greenway trail, was once a railroad in the 1850s that transported both passengers and freight for over 100 years. A major use for the railroad in this location was from the historic Bolton Notch quarry located just east of the park. An interesting railroad feature that can be found at this site is the impressive rock cuts that you can see along the trail. Garnets can be found in these outcrops with a trained eye, but since it is very weathered and wet they may be difficult to find. The primary focus of this stop is a side trail known as the “Mohegan Trail”.

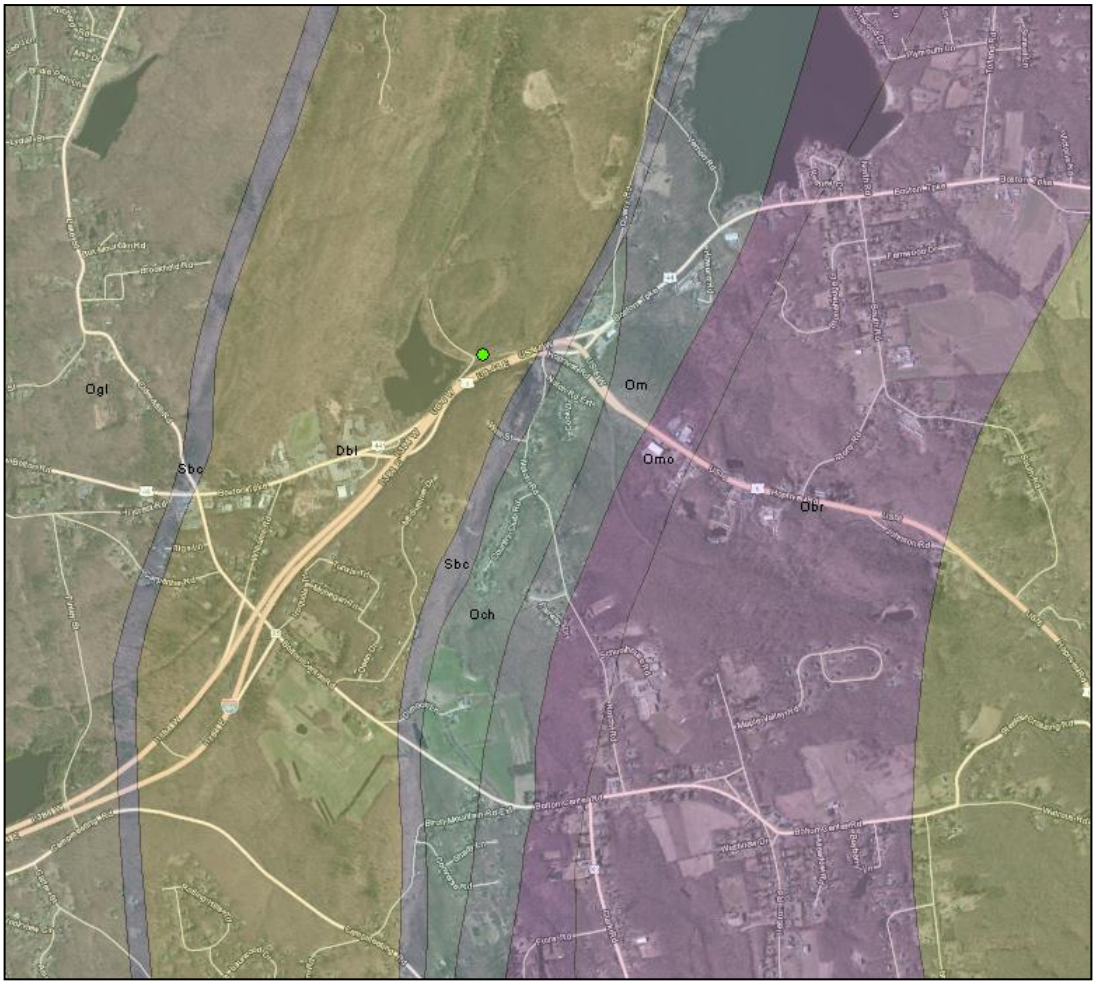

Figure 1. Aerial photograph taken in 2010 overlain by the bedrock in the area of the site. The park is represented by a green dot. This site is located primarily on Littleton Schist (Dbl) which overlies the Clough Quartzite (Sbc) that is exposed in some areas in the park. The garnets are found in Littleton Schist.

Figure 2. Abundant garnet in the Littleton Schist.

Begin your walk by taking a left on the trail from the parking lot (going toward the rock cut). After walking a short distance, you will see a sign on your right for the “Mohegan Trail”. The garnets are located along this trail. Immediately at its start, there are outcrops exposed on the ground with abundant garnets in Littleton Schist (Figure 2). Continue going up the trail and you will see more of this exposed schist as well as a lot of loose rock in the trail that presents garnet (Figure 3). If you continue to the top of this trail you will reach a large rock covered in spray paint. This is a pegmatite, or a coarse-grained rock formed when magma intruded rock deep beneath the earth’s surface and has since been exposed. Continue to the top of this paint covered rock for a nice view (watch young children near the edge).

Figure 3. Garnet can be readily found in the outcrop exposed along the Mohegan Trail as well as the loose rock surrounding

Bedrock – Littleton Schist

The Littleton Schist is a metamorphic rock that was originally formed by the lithification (hardening) of mud on an ancient seafloor. It was nearly flat lying when it formed but has since been deformed to the tilted rock we see today. The deformation occurred when the rock was deep (several km) underground and very hot. The heat and pressure of overlying rocks caused the original mud to metamorphose into the schist we see today. Garnet and staurolite are indicator minerals (Figure 4) that tell us the temperature and pressure during metamorphism and deformation was moderately high.

Figure 4. A close up of the garnet and staurolite in the Littleton Schist along the trail. Garnet is seen as the faint purplish spots (white arrow), staurolite is the thin, black mineral (yellow arrow).

In Connecticut, the Littleton Schist is found in the core (middle) of a long syncline (U-shaped fold in the bedrock) that is overturned toward the east. The east limb of the syncline dips (is tilted) toward the west. The west limb of the syncline is overturned, and because of that it also dips toward the west. In cross section, the syncline looks like a large letter U leaning, or tipped toward the east. The rock layers were originally formed in a near horizontal orientation. The tilted layers thus show deformation of the rocks during the plate tectonic processes to which they have been subjected. The syncline extends from Great Hill near Portland, Conn. northeast into Massachusetts and New Hampshire.

Directions

Parking is readily available at this site at the Bolton Park and Ride Commuter lot off the Rt-44 exit of I-384 (Yellow B arrow in Figure 5). A recent construction project has added a safe walking path from the Park and Ride lot past Bolton Pond (green star) to the entrance of Bolton Notch State Park (labelled in Figure 5). The entrance to Bolton Notch State Park is also accessible via a turn-off on I-384. It is suggested visitors do not use this entrance as the fast-moving traffic on I-384 and the lack of proper signage designating the entrance to the park can pose a hazard. **From Hartford:** Take I-84E to I-384E via exit 59.

Figure 5. Google Earth image of Bolton Notch State Park and Bolton Park and Ride, the suggested parking area to access the park.

Reference:

Rodgers, John, 1985, Bedrock Geological Map of Connecticut. Connecticut Geological Survey National Resource Atlas Series.

Geology of Connecticut State Parks: Bolton Notch. http:/www.ct.gov/deep/geology

IMPORTANT: *Please do not collect the minerals and take them for yourself. These minerals are on state property so they are meant for all of the citizens of Connecticut to enjoy. Please be considerate of others and take nothing but photos. Thank you for your cooperation!*

Garnet Trail funded through DEEP Greenways program (National Recreational Trails Program funding) to develop educational information on the Connecticut State Mineral, Almandine garnet. Locations chosen to promote a greater awareness of our State Mineral and showcase the variety of garnet occurrences on State Land.

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