

### Self-Guided Road Trip

# GARNET HILL GEMSTONE SITE

**Miles:** 10 miles round-trip.  
**Time:** About 1.5 hours including stops.  
**Services:** No services beyond Ely. Gas up in advance!

#### Travel advisory:

You'll be on graded dirt roads for only a mile or so. In dry weather, conditions are easily passable with a 2wd vehicle up to Garnet Hill. RVs and large trailers are not recommended. A shovel and a rock hammer can come in handy when you're searching for gemstones here. There is no water available, so bring your own. This is a great picnic site!

**Caution:** You are in a high desert environment and are sharing that with the local wildlife. Rattlesnakes have occasionally been seen in this area. When you are wandering across Garnet Hill, use your shovel or hand tools to carefully turn over any rocks that may be sheltering a snake. These creatures prefer to leave you alone - unless you stick your hand in their face. A little bit of caution is always a good idea.



Garnet Hill Gemstone Site. Photos by Matt Bowers.



#### Cool things to do:

Garnet Hill offers a quick & fun day trip for the entire family. The semi-precious gemstones that wash out of the rock provide a geological hide & seek game for all ages. Take home whatever you can find!



| Location     | Miles       | Time         | Coordinates               |
|--------------|-------------|--------------|---------------------------|
| <b>Start</b> | <b>0.00</b> | <b>00:00</b> | <b>39.2533, -114.8741</b> |

In Ely, from the intersection of Great Basin Blvd. (Highway 93) and Aultman Street (Highway 50), travel west on Aultman heading out of town. Once you leave town, there will be no services until you return. Gas up and take food and water before you leave. Let someone know where you are going and when you plan to return. And watch your speed in Ely - they take the speed limits seriously here.

|                             |             |              |                           |
|-----------------------------|-------------|--------------|---------------------------|
| <b>Lehman's Illūminātiō</b> | <b>0.84</b> | <b>00:01</b> | <b>39.2487, -114.8883</b> |
|-----------------------------|-------------|--------------|---------------------------|

When you pass by the Park Vue Motel in downtown Ely, look to your right. The mural on the side of the Park Vue was created by Carolina Shrewsbury of the NSS Arts & Letters Section. The NSS received a \$16,000 grant from the Great Basin Heritage Area Partnership to create and install the mural. The scene depicts the historic discovery and exploration of the Lehman Caves in Great Basin National Park. Discovered in the late 1800s by Absalom Lehman, the caves feature over 300 rare shield formations. The Ely Renaissance Society owns several murals around town. You can pick up a walking guide at the White Pine County Chamber of Commerce.



*Lehman Cave Mural. Artwork by Carolina Shrewsbury.*

|                                |            |              |                           |
|--------------------------------|------------|--------------|---------------------------|
| <b>Turn-off to Garnet Hill</b> | <b>3.2</b> | <b>00:06</b> | <b>39.2580, -114.9276</b> |
|--------------------------------|------------|--------------|---------------------------|

The turn-off to Garnet Hill is well marked. Take the road to the right of the highway & follow the signs.

There are four picnic sites with grills and a handicap accessible restroom available. A group barbeque area is also available. There are two informal areas for tents or small campers. No water is available.

### *Crotalus oreganus lutosus*

The Great Basin rattlesnake is a venomous pitviper subspecies found in this region of the United States. Its range includes parts of Idaho, Utah, Arizona, Nevada, California and Oregon. They typically inhabit the dry and barren areas of the Great Basin region, being found on hills, summits and old lake benches. They are said to prefer southern exposures among rocks and boulders on hillsides and buttes. As you might guess, this pretty much describes Garnet Hill.

On a recent site visit to this area, the convention team did meet a friendly snake in the parking lot. It's unlikely you will share this experience, but you should be mindful of where you put your hands. Use a shovel to turn over boulders and rocks on Garnet Hill. Rattlesnakes would prefer to leave you alone - unless you stick your hand in their face. On warm summer days, this species will seek out shady places to protect it from the sun.

The space under your car is very shady.



*Garnet Hill photos by Matt Bowers.*

### Garnet Hill Gemstone Area

Garnets are crystallized minerals formed in igneous rocks. Larger garnet stones are precious gems due to their clear color and beauty. Garnet jewelry has been found in Egypt dating back to 3500 B.C.; it reached the height of fashion in the Victorian era. Many ancient myths are associated with garnets. In ancient times, images of lions were engraved upon garnet gems with the belief that this produced a magic amulet or charm providing the ultimate in protection. Throughout much of European history, superstitions persisted that garnets could prevent bad dreams and were able to cure diseases of the blood. Today, garnet remains a popular gemstone and is the birthstone for those born in the month of January. Garnets are also an important industrial mineral used as an abrasive in sand blasting and in manufacturing garnet sandpaper.



### The Evolution of Garnet Hill

The volcano that produced the garnets in this area erupted the same time mammals were becoming dominant and modern plants were evolving, between 32 and 40 million years ago. In that era, Garnet Hill was actually several hundred feet below the volcano's surface. Rhyolite, which is a fine-grained igneous rock that is the volcanic form of granite, was being formed within the volcano. Rhyolite forms when magma erupts from the surface or invades rocks at a very shallow depth. As the molten rock cools, gases form pockets or vesicles in the rock allowing the garnet crystals to grow. The garnet crystals formed from the last bit of liquid cooling within the rock. The crystals vary in size, from small grains to crystals of one-quarter inch in diameter, and color of deep red to brownish red and orange. Rarely crystals of one half-inch size are found here. The garnets found at Garnet Hill are of the almandine group. Almandine is composed of iron, aluminum silicate and is deep red or brownish red in color.

### History of Garnet Hill

The garnets were probably first noticed by early prospectors (1870s) searching for ore deposits in the area. A. C. Spencer of the U.S. Geological Survey wrote a report on the ore deposits in and around the Ely, Nevada area. It has since been mentioned in various mineralogist magazines and remains popular with mineral collectors.

On December 22, 1970, Garnet Hill and the surrounding area were withdrawn from mineral entry when the Garnet Fields Rockhound Area was created to ensure continued public recreational and scientific uses of the site.



**Find Some Garnets!**

The garnets at this site may be found by two methods: by finding them on the surface or by digging and breaking rock.



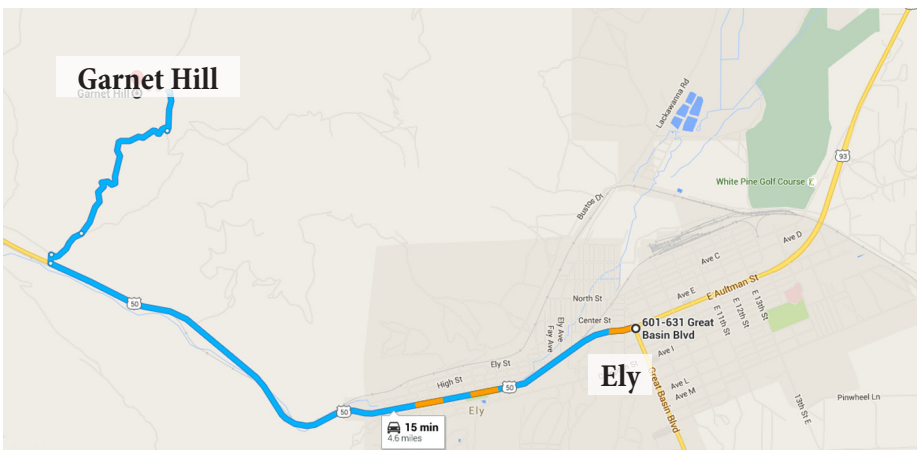
To find them on the surface, look in low spots and gullies. As time passes, the garnets that are embedded in the rock are exposed to the elements and some eventually separate from the rock where they were formed. They end up being washed downhill and collect in depressions, somewhat like placer gold in a stream. As you search the ravines, keep your eyes open for dark red dots in the dirt and rubble, and you just might find a garnet or two.

If you prefer a more aggressive approach, you'll need a few tools to help you along. The basics are safety goggles, leather gloves, rock hammer, chisel, pry bar, pick, shovel, drinking water and something to hold the treasures you find. On summer days, a hat for protection from the sun is also a good idea.

First, pick a spot, dig a hole, gather the rocks you dig out and examine them. What you're looking for are rocks with holes in them. Carefully break them apart and see if you get lucky. Not all rocks will have garnets, but if you're persistent you are sure to be successful.

**When you find something...**

Lots of people just take home and display their garnets as they found them. You can also chisel them out of the rock and clean them up. Garnets are brittle, so be careful as you chisel away. Once the garnets are out of the rock, good old soap and water and scrubbing with an old toothbrush will get them all cleaned up. Don't forget, you can always get them polished and made into jewelry. Have fun!



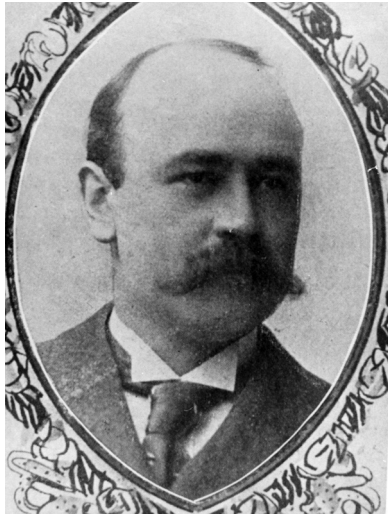
**Special thanks...**

Jason Williams, Nevada Department of Wildlife; Matt Bowers, NSS; Mortimer family, National Speleological Society

### Robinson Mining District

From the top of Garnet Hill, you can easily see the waste dumps at Robinson Mine south of the highway. This is the overburden material stripped from the pits to expose the underlying ore. At one time, this active copper mine was the largest human-made hole on Earth!

Around 1868, prospector Thomas Robinson discovered gold and silver here, along with widespread, low-grade copper. Several gold mines were opened, but none were successful. Without sufficient demand, the lack of transportation, the low grade of the ore, and the difficulty in extracting the copper made it unprofitable for mining.



Mark Requa. Image compliments of the Nevada Northern Railway Museum.

Copper was re-discovered in 1900. Mark Requa (1866-1937) optioned the copper claims of Edwin Gray and Dave Bartley. Requa was the son of a Comstock engineer and a trusted advisor to President Herbert Hoover. The two men had become close friends while attending engineering classes at Stanford University in California. Requa's initial interest in White Pine County was to build a feeder railroad to the Eureka and Palisade Railroad. However, the copper soon captured his attention. He organized the White Pine Copper Company in 1902, and quickly solved problems related to metal extraction and transportation.

In the winter of 1904, Requa went east to secure financing for the new mine and smelter. During that trip, he learned that the company that owned land next to his, the New York and Nevada Copper Company, was bankrupt. He purchased it and created the Nevada Consolidated Copper Company.



"Copper Flat" at the Robinson Nevada Mine. Image compliments of the Nevada Northern Railway Museum.

Subsequent meetings with railroad magnate E. H. Harriman, then-president of the Southern Pacific Railroad, secured Requa the right to extend his Nevada Northern Railway to the trans-continental lines in the northern part of the state. This connection gave the company access to distribution channels across the continent.

In the early 1900s, commercial and residential use of electricity was in full-scale development across North America. Availability of large amounts of power from distant locations had become possible after Charles Parsons' production of turbogenerators in 1889. The transmission infrastructure to deliver that electricity, however, did not exist.

In the span of a few short years, the demand for power transmission technology exploded as North America adopted an electrical-powered society. The key ingredient of those power transmission lines was a previously unimpressive mineral. Copper.

Today, the anticipated ore reserves at Robinson are about 103 million tons containing 0.68% copper and 0.23 gm/t gold. Current annual production averages around 120 million pounds of copper and 75,000 ounces of gold. This mine is one of the largest employers in White Pine County. There is a very good chance that some of the copper that is helping power your car today now actually came from this mine.