



THE DISCOVERIES TRAIL
A FAMILY OF DAY TRIP ADVENTURES IN NORTHERN NEW MEXICO

Los Alamos to Ghost Ranch

PHOTO BY LESLIE BUCKLIN

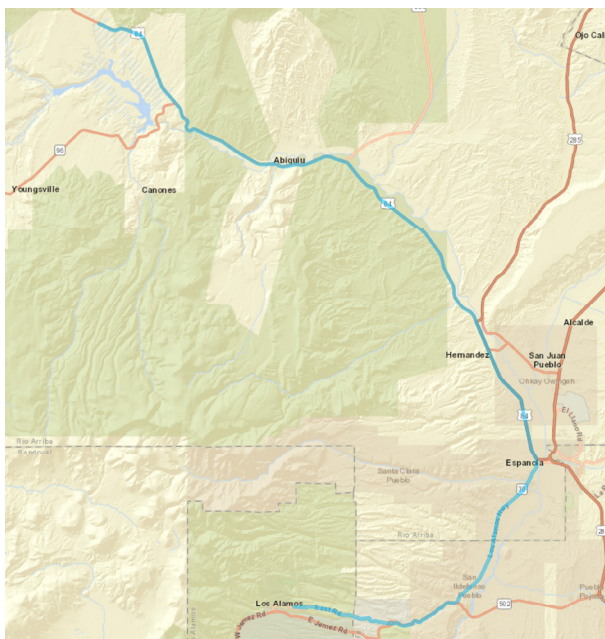
The **Los Alamos to Ghost Ranch** section is 55 miles of natural beauty, history, arts and culture. It connects two locations that shared history when the Manhattan Project scientists took vacation and respite at Ghost Ranch. Now, you can journey point-to-point visiting sites along the way that will inspire your own curiosity, wonder, awe, and discoveries!

Travel time between Los Alamos and Ghost Ranch is approximately one hour.

ONE DAY or TWO? This scenic trail can be traveled in one day, or you may want to spend one day visiting Los Alamos, stay overnight, then continue your discoveries the next day on your way to Ghost Ranch.

Traveling the Discoveries Trail

While driving this section of the Discoveries Trail, you will be driving the eastern perimeter of the Jemez volcanic field (about 70 thousand to 15 million years old). From Los Alamos, you will descend through five geologic deposit layers into the Rio Grande rift, and drive north through six geologic periods going back 250 million years, finally ascending a rock uplift area called the Colorado Plateau Province of northern New Mexico. Be prepared to see increasingly colorful rock strata!



To follow are suggestions of places for you to experience and make your own discoveries along the Trail. Each site is labeled with one of the following guide symbols:



Nature



History



Arts & Culture

The Trail starts at the Los Alamos Visitor Center at 20th Street and Central Avenue in Los Alamos. [From GR 55.3 miles]

Set your odometer to 0.0 miles, and head east (slightly downhill) on Central Avenue, and continue east out of Los Alamos on Trinity Drive (NM 502). [Note: For each location, mileage from Ghost Ranch is also indicated, in brackets.]



Los Alamos Visitor Center



Central Avenue looking East

● Sangre de Cristo mountain view

At 1.4 miles, as you pass the Los Alamos Airport, notice the spectacular view straight ahead of the Sangre de Cristo mountain range on the eastern horizon. These mountains lie on the east side of the Rio Grande rift, and are the southernmost subrange of the Rocky Mountains, composed of Paleozoic sediments (roughly 300 million years ago) over Precambrian rocks (1.6 billion years). [From GR 53.3 miles]

● East Gate Guard Tower

At 2.6 miles, on your right, is the East Gate Guard Tower, built in 1948. A Badge Office was across the street, and guard booths stretched across the road. [From GR 52.5 miles]

● Manhattan Project Main Gate

At 2.7 miles, on your left, is a replica of the 1940s Manhattan Project Main Gate. [From GR 52.5 miles]

● Pajarito Plateau

At 3.7 miles, as you descend the hill toward Anderson Overlook (3.9 miles), you will see the Sangre de Cristo mountain range, with the prominent mesas of the Bandelier Tuff (which forms the Pajarito Plateau around you) in the foreground. The line in the photograph separates the two members of the Bandelier Tuff (erupted at 1.2 and 1.6 million years ago). [from GR 51.2 miles]

● Bandelier Tuff over lava flow

At 5.6 to 5.9 miles, on your left, the Bandelier Tuff lies over an older lava flow (2.4 million years old). The brilliant white layer is pumice at the base of the Bandelier Tuff. See page 4. The black lava flow is at the bottom of the photo. [From GR 49.0 miles]

North to Española

At 8.7 miles, exit right at the overpass onto NM 30 and continue toward Española. [From GR 45.8 miles, exit right onto NM 502 West, toward Los Alamos]

● Black Mesa

At 9.6 miles, first view straight ahead of Black Mesa, an eroded volcano vent dated at 2.7 million years. In 1694 the San Ildefonso Pueblo people took refuge atop this mesa from March to September and successfully defended themselves from several attacks by the forces of Don Diego de Vargas. After Spanish troops destroyed crops and foodstuffs, an uneasy peace was negotiated on September 9, 1694. [From GR, 39.5 miles first view, and 42.2 miles closer view]

● Bandelier Tuff, Puye Formation, and Santa Fe Group sediments

At 11.4 miles, on your left, are the tan fine-grained beds of the Santa Fe Group (4 to 15 million years ago). These sediments fill the Rio Grande rift more than 5 kilometers (3 miles) deep.

Above this, you see the Puye Formation layer (coarse gravel shed from volcanic domes about 2.3 to 2.8 million years ago), and finally on top is the Bandelier Tuff.

Geologic units are identified in the photo. [From GR 41.7 first view, and 42.7 miles on right]

● Pueblo Chapel

At 12.6 miles, on your right is a small old pueblo chapel with a picturesque graveyard, and a view of Black Mesa. This chapel and the houses along the Rio Grande are part of San Ildefonso Pueblo, and are private. [From GR 42.0 miles]

● Puye Cliff Dwellings

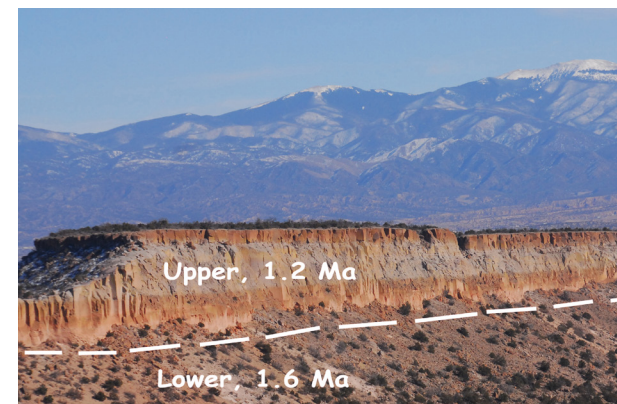
At 14.0 miles, on your left at the stop light, is the Puye Cliffs Welcome Center, and the entrance to the Puye Cliffs. Santa Clara Pueblo ancestors inhabited the cliff dwellings here. Tours are given by members of the Pueblo (fee charged). There is a small museum and gift shop. [From GR 41.1 miles]



East Gate Guard Tower



Manhattan Project Main Gate Replica



View from Anderson Overlook

● Santa Clara Pueblo

At 16.6 miles, on your right is the main entrance to Santa Clara Pueblo. Some feast days at the Pueblo are open to the public. [From GR 38.6 miles]

<http://www.puyeclifldwellings.com>

<http://www.espanolanmchamber.com/list/member/puye-cliff-dwellings-and-welcome-center-espanola-608>

North to Abiquiu

At 18.0 miles from Los Alamos, NM 30 ends. Turn left at the stop light onto US 84/285 to continue.

● Española Valley Fiber Arts Center: Museum and Workshop, Española, NM

At 18.0 miles from Los Alamos, if you turn right at this light, less than two blocks off your route to Ghost Ranch is the Española Valley Fiber Arts Center. It is a unique resource for woven fiber artists and enthusiasts. Visitors to the adobe storefront find looms, colorful yarns, beautiful handmade textiles, books, and supplies. [From GR 37.2 miles]

<https://www.evfac.org>

● Plaza de Española, and the Frank Bond House, Española, NM

At 18.1 miles from Los Alamos, on your left and directly on your route to Ghost Ranch, is the Plaza de Española. At the Plaza you will find the Northern New Mexico Regional Art Center. Directly behind the Plaza is the Frank Bond House, now a museum. Frank Bond was a merchant and land owner in the 1880s, and a major influence on the early years of the town of Española. [From GR, 37.2 miles. To continue to Los Alamos, veer right onto NM 30 "Los Alamos Hwy"]

<https://www.nnmrac.org/bond-house-museum---old.html>

● Black Mesa lava flow

Observe the 45mph speed limit through Hernandez.

At 21.1 miles, ahead on your right is another Black Mesa. This one is a lava flow (about 3.5 million years old) that traveled 20 miles from Taos! The lava lies on top of white beds of Ojo Caliente sandstone (11 to 14 million years old). [From GR 18.3 miles first view; 22.2 miles best view, and 27.9 miles last view]

● Moonrise, Hernandez, NM

At 23.2 miles, on your right and a couple hundred feet from the road, is a private chapel. The famous photo "Moonrise, Hernandez, New Mexico" (1941, Ansel Adams) was taken from the shoulder of the highway here, but the chapel and graveyard in the photo are now hidden by tall trees. [From GR 32.0 miles]

North to Abiquiu

At 25.8 miles, continue straight on US 84, towards Chama. (US 285 turns off to the right at this intersection).

● Driving through lava

At 26.4 miles, notice the road cutting through a layer of basalt lava (10.1 million years old). Air bubbles in the lava flow have since filled in with calcite (calcium carbonate, CaCO_3). [From GR 28.8 miles]

● Cerro Pedernal

At 38.3 miles, first view straight ahead of Cerro Pedernal (the flat peak). Pedernal means "flint" and this peak was a source of stone for weapons and trade for local Pueblo people for centuries.

● Old chapel ruins

At 39.2 miles, on your right are the ruins of an old chapel. Built in 1744 and used until the 1930s, it is part of the now all-but-vanished Village of Santa Rosa de Lima. It is on the National Register of Historic Places. [From GR 14.9 miles]



Bandelier Tuff lies over an older lava flow



Black Mesa on the San Ildefonso Pueblo



Bandelier Tuff, Puye Formation, and Santa Fe Group sediments

● The O’Keeffe Welcome Center, Abiquiu, NM

At 40.3 miles from Los Alamos, on your right, you will find the O’Keeffe Welcome Center. This will give you a good introduction to the area, and the famous artist Georgia O’Keeffe, who made her home in the area from the 1940s until her death in 1988. [From GR 14.4 miles]

● O’Keeffe adobe home

At 40.4 miles, on your left, O’Keeffe’s historic 1940’s adobe home and studio is visible on top of the hill. Reservations are required for tours. [From GR 14.2 miles, very brief view]

<https://www.okeeffemuseum.org/visit/visitors-information/>

<https://www.okeeffemuseum.org/visit/visitors-information/directions-to-abiquiu/>

● Village of Abiquiu

At 40.9 miles, on your right is Bode’s store (in business for over 100 years, and a famous gathering spot for this area). Turn left here to go uphill one-tenth mile to the village of Abiquiu, founded in 1754. You can walk the main plaza and obtain visitor information. On the first weekend of October each year Abiquiu holds its Abiquiu Studio Tour, when you can visit many local artist studios. [From GR 14.3 miles]

<https://www.newmexico.org/places-to-go/regions-cities/northcentral/abiquiu/>

<https://www.newmexico.org/listing/abiquiu-studio-tour/1601/>

Pueblo de Abiquiu Library and Cultural Center (in Abiquiu Village)

<http://abiquiupl.org/walking-tour.html>

● Crossing a fault line

At 41.3 miles, as you cross the Rio Chama, you are crossing a fault line. On your right you will notice the tan rock of

the Santa Fe Group (15 million years old), then on the north side of the fault, the white sediments of the Abiquiu Formation (about 22 million years old).

The Rio Chama starts in Colorado and joins the Rio Grande just north of Española. [From GR 14.0 miles]

● Lava intrusion dikes

At 42.8 miles, on your right, notice the black basalt lava dikes (thin, vertical ribs and magma fingers dating 19.2 million years). This magma rose through cracks in the existing white sediments of the Abiquiu Formation. [From GR 12.2 miles]

● The Cañones Fault

At 44.5 miles, the Cañones Fault crosses the road and trends up the ravine to your right. This is the tectonic boundary between the Rio Grande rift behind you and the Colorado Plateau ahead. This area is roughly 205 to 280 million years old. [From GR 10.2 miles]

● Rio Chama River View

At 45.5 miles, on your left is a famous view of a bend in the Rio Chama that has been painted by Georgia O’Keeffe and many others. [From GR 9.6 miles]

● Abiquiu Lake

At 47.5 miles from Los Alamos is the junction of US 84 and NM 96. Abiquiu Lake is on your left. You may want to turn left here for a quick but worthwhile stop and scenic view of Abiquiu Dam and Lake. [From GR, 5.5 miles view of lake, and 7.6 miles junction]

● Cerro Pedernal

At 47.6 miles, as you continue north on US 84, Cerro Pedernal is again in view. It consists of several lava flows (about 7.8 million years old) on top of various sediments including the whitish Abiquiu Formation. It was a favorite of Georgia O’Keeffe, who often said that God told her if she painted it often enough, she could have it. [From GR, views at 0.8 miles and 4.4 miles]



Chapel below Black Mesa



Lava dikes (darker vertical stripes)

● Oh, Beautiful colors!

At 48.1 miles, good views straight ahead of Cretaceous (100 million years old) to Triassic (250 million years old) rocks. A detailed description is provided below under "Ghost Ranch". [From GR, views at 1.5 miles (ahead), and at 4.4 miles (behind you)]

● Mudstone

At 51.0 miles (view ahead), and 51.9 miles on your right, is a great view of yellow and red to purple mudstones of the Triassic period. [From GR 2.5 miles]

● Ghost Ranch Education & Retreat Center, Abiquiu, NM

At 54.0 miles from Los Alamos, and a beautiful 6.5 miles north of Abiquiu Lake, you will arrive at Ghost Ranch. This is the multicolored rock area of Georgia O'Keeffe, who lived at the ranch for several years. These multi-colored strata form the breath-taking cliffs that O'Keeffe loved and painted.

As you head into Ghost Ranch, prominent cliffs ahead expose colorful rocks.

From bottom to top, the strata include:

Chinle Group (Triassic, 250 million years, famous fossils);

Entrada Formation (Jurassic, 160 million years, desert sandstone);

Todilto Formation (Jurassic, 158 million years, whitish inland sea deposits of gypsum and limestone);

Morrison Formation (Jurassic, 155 million years, pale green/purple/red siltstone and sandstone, also famous for dinosaur fossils);

Dakota Formation (Cretaceous, roughly 100 ± 20 million years, mostly pale yellow sandstone).

These geologic units are identified in the photo (right).

● ● ● Ghost Ranch Welcome Center

At 55.5 miles, you will arrive at the Ghost Ranch Welcome Center.

At Ghost Ranch, you can visit, explore, attend a workshop, or stay for a peaceful retreat.

Sites of interest include:

Ruth Hall Museum of Paleontology

New Mexico State Fossil (Coelophysis—discovered here!)

Florence Hawley Ellis Museum of Anthropology

Peace Garden at Lower Pavilion

History Tour

O'Keeffe Landscape Tour

Trail Rides on Horseback

Cottonwood Library

Welcome Center Trading Post

Walking Labyrinth

Hikes:

Chimney Rock, Kitchen Mesa, Box Canyon,

Matrimonial Mesa

<https://www.ghost ranch.org>

● Echo Amphitheater

While you are in the area, 4.1 miles north of Ghost Ranch (on US Route 84) is a paved trail leading to a natural rock amphitheater.

<https://www.fs.usda.gov/recarea/carson/recarea/?recid=44462>

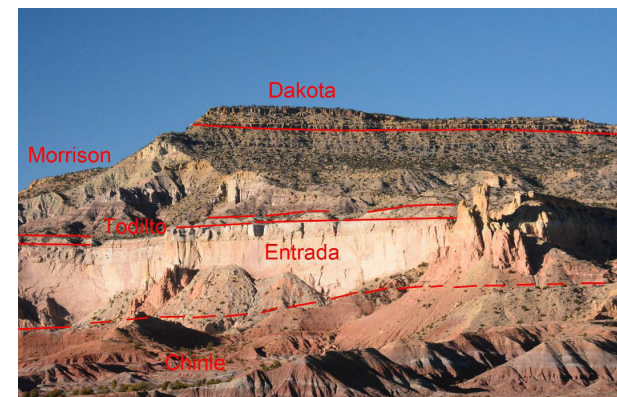


What did you discover? Did you have an "Aha" moment? Submit your story and picture here: <http://wherediscoveriesaremade.com/contact/>

Your discovery may be added to the Discoveries Trail!



White Rock Visitor Center



Rock formations and groups

Visiting Los Alamos and Ghost Ranch

Where to eat and stay?

Both Los Alamos and Ghost Ranch offer meals, lodging, recreational vehicle and camping facilities. The Visitor Centers, or the web, can assist you.

Los Alamos (on “the Hill”) and White Rock (ten miles down “the Hill”) comprise the town of Los Alamos. In White Rock and Los Alamos, there are numerous restaurants, hotels, and Bed and Breakfast options. The Visitor Center can help you, or just ask a local resident passing by!

Hotel/Bed and Breakfast: Use your favorite travel search engine or hotel website to find our hotels and Bed and Breakfast locations. Ghost Ranch also has housing opportunities.

Recreational Vehicles: RV overnight parking is available at Los Alamos Main Gate Park, White Rock Visitor Center, Abiquiu Lake, and Ghost Ranch.

Los Alamos Main Gate Park (east end of town; 2.9 miles from downtown):

https://www.losalamosnm.us/government/departments/community_services/parks_recreation_and_open_spaces/parks/white_rock_r_v_park

The White Rock Visitor Center (9.2 miles from Los Alamos) is located at 115 State Road 4, White Rock, NM 87544 505.672.3183.

<http://www.visitlosalamos.org/white-rock-visitor-center-opening-sept-28-offers-rv-parking-transit-to-bandelier/>

Abiquiu Lake

<https://www.recreation.gov/camping/campgrounds/233598>

Ghost Ranch:

<https://www.ghost ranch.org/visit/lodging-meals/rv-camping/>

Camping:

Los Alamos: Camping is available at Camp May near the Pajarito Ski Hill (7.3 miles from downtown).

https://www.losalamosnm.us/government/departments/community_services/parks_recreation_and_open_spaces/parks/parks_in_los_alamos/camp_may

Bandelier National Monument (11.9 miles from Los Alamos): Juniper Family Campground (No reservations are taken, and rarely needed. Pay fee onsite.)

<https://www.nps.gov/band/planyourvisit/camping.htm>

505.672.3861, extension 517

Abiquiu Lake

<https://www.recreation.gov/camping/campgrounds/233598>

Ghost Ranch offers tent camping on site!

<https://www.ghost ranch.org/visit/lodging-meals/tent-camping/>

NEW MEXICO True

In addition to the Discoveries Trail, New Mexico is home to 25 other magnificent scenic byways.

<https://www.newmexico.org/things-to-do/scenic-byways/>

Los Alamos Social media:

<http://wherediscoveriesaremade.com>

<http://fyilosalamos.com>

#PlayLosAlamos

#StayLosAlamos

A collaborative project with:

Discoveries Action Team, Los Alamos, NM

Dean Decker, Los Alamos, NM

Fraser Goff, Los Alamos, NM

Chris Judson, Los Alamos, NM

Los Alamos County

<https://www.losalamosnm.us>

<http://wherediscoveriesaremade.com>