## REAL•RUGGED•REWARDING

## GREAT BASIN OF UTAH



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## Adventure 1 <br> ANTELOPE SPRINGS TRILOBITE ROCKHOUNDING SITE

GPS COORDINATES:

Antelope Springs Area
$39.37512^{\circ} \mathrm{N}, 113.29404^{\circ} \mathrm{W}$
Wheeler Formation Area $39.35501^{\circ} \mathrm{N}, 113.27871^{\circ} \mathrm{W}$

ACCESSIBLE BY:


## HOW TO GET THERE:

Take US 6 \& 50 west from Delta toward the Utah/Nevada border. After traveling 32 miles one will see a sign on the north side of the road indicating Antelope Springs and a commercial trilobite fossil site. Follow the gravel road for approximately 20 miles. The Antelope Springs area in the Wheeler Amphitheater offers both public and private quarries, so make sure you know where you are. The private quarries are well marked. These private areas charge a fee to dig, but can almost guarantee that you will find trilobites. Other sites can be found along the gravel roads to the south. A solitary Lombardy poplar marks the old homestead at Antelope Springs. Along the main road going north of this tree is the site of the Antelope Springs Civilian Conservation Corps (CCC) camp established in the 1930s. The road will make a right turn to the left along the north edge of the camp. Follow the road up the mountain to get to Sinbad and more trilobite hunting areas.

## Adventure 2 SUNSTONE KNOLL

## GPS COORDINATES:

$39.14659^{\circ} \mathrm{N}, 112.71682^{\circ} \mathrm{W}$ (North of Clear Lake Road on Hwy 257)

## ACCESSIBLE BY:



Featuring the same semiprecious stones as Oahu's Diamond Head, Sunstone Knoll offers a chance to gather a gem as a souvenir. Collect sunstones (transparent yellowish labradorite crystals) on the flats surrounding the knoll. Sunstone Knoll is 11 miles south of Deseret on Hwy 257 east of the railroad tracks.


## COLLECTING ON BLM LANDS:

The casual rockhound or collector may take small amounts of fossils, gemstones, and rocks from unrestricted federal lands in Utah without obtaining a special permit if collection is for personal, non-commercial purposes. Petrified wood may be collected for non-commercial use only from public lands up to 25 pounds plus one piece of any size per day with a yearly limit of 250 pounds. Collection in large quantities or for commercial purposes requires a permit, lease or license from the BLM.

## COLLECTING ON SCHOOL TRUST LANDS:

Most state lands are administered by the Schools and Institutional Trust Lands Administration. A rockhounding permit is required to collect on these lands. An annual permit is $\$ 10.00$ per person or $\$ 200.00$ per family. Up to 25 pounds per day plus one piece per person is allowed.

School Institutional and Trust Lands Administration, 675 East 500 South, Suite 500, Salt Lake City, UT 84102 or trustlands.utah.gov/resources.

## PAHVANT BUTTE [SUGARLOAF]

GPS COORDINATES:
$39.1316^{\circ} \mathrm{N}, 112.5521^{\circ} \mathrm{W}$ (Rises 740 ft above the valley floor)
ACCESSIBLE BY:
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## LACE CURTAIN

A unique geological feature at Pahvant Butte, perfect stop for photographs or a picnic. On the north side of Pahvant Butte, molten lava erupted and flowed into Ice Age Lake Bonneville. That eruption is frozen in time as the hot lava resembling dripping wax froze in place. This 15,500 year-old basalt lace curtain awaits your visit.


## SUGARLOAF CRATER

On the west side of the butte a deep wash has eroded down and out from the volcanic crater. ATVs and four-wheel drive vehicles can ascend the two-track road up into the crater. Several acres of clay fill the bowl of the crater. On a knoll to the south stand the concrete pylons left over from Hood's 1922 Wind Generator. To the north are the steeply sloping yellowbrown tuff walls of the crater.

## HOOD'S WIND GENERATOR

In 1922, A.H. Hood began constructing a wind-powered electric generator atop Pahvant Butte. A gigantic single turbine set on a circular track to face the wind was envisioned. It was never completed. The concrete pillars and generator house still remain to be seen.

## POT MOUNTAIN

## GPS COORDINATES：

$39.1294031^{\circ} \mathrm{N}, 112.7735621^{\circ} \mathrm{W}$（Formerly known as Dunderburg Butte）

## ACCESSIBLE BY：

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Also rising above the waves of Lake Bonneville was Pot Mountain a few miles west of Pahvant Butte．Three small basalt formations rest atop a wave－flattened mesa 350 feet above the valley floor．The curved basalt outcrop on the north forms the spout of this teapot while the top formations form the lid handle．

## Adventurce 3

## TOPAZ MOUNTAIN ROCKHOUNDING SITE

## GPS COORDINATES：

Topaz Mountain Area $39.712721^{\circ} \mathrm{N}, 113.107856^{\circ} \mathrm{W}$

## ACCESSIBLE BY：



## HOW TO GET THERE：

Starting at Delta，follow US 6 north about 11 miles to the Brush Wellman Road．Turn west and travel 38 miles until you reach the Topaz Mountain sign．Turn north on the dirt road and drive about two miles，then turn west toward Topaz Mountain．

Topaz，Utah＇s state gem，is a semi－precious gemstone occurring as very hard，transparent crystals in a variety of colors．The crystals at Topaz Mountain are naturally amber colored，but become colorless after exposure to sunlight．

The crystals formed within cavities in the rhyolite，a volcanic rock which erupted approximately six to seven million years ago during the Tertiary Period．Coves along the east side of Topaz Mountain contain garnets and other crystals． Apache tears（obsidian nodules）can be found off the south west side of Topaz Mountain．


Agate Hill offers excellent agate in many colors．Follow US 6 as if going to Topaz Mountain．After travelling approximately 31 miles west on Hwy 174 there will be a road heading southwest from the main highway．Follow it for about 3 miles to where a dirt road forks south． Follow the dirt road for 1.4 miles to its end．Tan，red and white agate is scattered over the top of the large hill to the west．

## Adventure 4

## MAHOGANY，SNOWFLAKE， AND BLACK OBSIDIAN

ACCESSIBLE BY：
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From Fillmore，take I－15 south to exit 146 south of Kanosh．Cross the freeway to the east and turn south on the first frontage road．
Travel south to a bridge crossing the freeway to the west．Follow this gravel road bearing west for about 26 miles．Or，take US $6 \& 50$ west of Delta to SR 257 and turn south．Travel about 43 miles，passing the Graymont lime plant， to the sign saying＂Kanosh 26 （mi）．＂Turn east，and follow the dirt road．

Obsidian can be found on the hillsides and on the roadbeds near Coyote Spring and Black Spring. East of Black Spring on the main gravel road one will drive down into a depression. A large BLM sign indicates the route to Kanosh. A gravel/dirt road leads to the north behind this sign. Take the north road and then turn east at the first side road going east. Drive up the hill and over the crest. Collect your own mahogany obsidian at this community pit. Permit required for more than 250 lbs per person per year.

## Adventure 5

## VOLCANIC REMNANTS

## ACCESSIBLE BY:



An enjoyable way to experience the volcanic geological history of Millard County. Good for scrambling and photo opportunities, but please note the road conditions and be aware of your limitations. The Black Rock Desert is a volcanic area, or volcanic field, covering more than 700 square miles in eastern Millard County. Episodic volcanic activity has occurred here from a couple million years ago up to a few centuries ago, leaving intriguing landforms and features including volcanic cones, lava tubes, pressure ridges, and craters.


## HOW TO GET THERE:

From I-15, take either Fillmore exit, then go down Main Street and turn west on 400 North (State Route 100). Cross the l-15 overpass (where 400 N turns into 500 N to Flowell) and go 5.9 miles to 4600 West (Pahvant Heritage Trail). At this intersection you can access the northern Ice Springs Lava Flows, Devils Kitchen, and Pahvant Butte (Sugarloaf) by turning right and going north and west to Clear Lake Road, or you can access the southern Ice Springs Lava Flows, Tabernacle Hill, and White Mountain by turning left and going south and west along the perimeter of the Ice Springs lava flows to 2300 South. Starting at Fillmore, this tour will follow SR 100 and gravel roads.

## LAVA TUBES \& TABERNACLE HILL

GPS COORDINATES:


Tabernacle Hill is reached by way of Lava Tubes Road, named for the caves in the area. The lava tubes, which extend for hundreds of yards, formed as the surface of lava streams cooled, solidified, and crusted over. The subterranean lava then vacated the tubes as the supply of lava diminished, leaving behind empty conduits.

The central tuff ring, from which Tabernacle Hill gets its name, is a type of volcanic cone made of ash and grittier fragments (lapilli) created by explosive eruptions caused by the interaction of basaltic magma and shallow water. Only two-thirds of Tabernacle Hill's original 3,000-footdiameter cone remains; the northwest side has been obliterated by eruptions. The central caldera within the tuff ring is surfaced with pressure ridges and domes, which are elliptical mounds that commonly split lengthwise along their crest as molten lava pushes upward on the solidified crust of the flow. (Source: Jim Davis, Utah Geological Survey)

## Adventure 6 FORT DESERET

GPS COORDINATES:
$39.264852^{\circ} \mathrm{N}, 112.653817^{\circ} \mathrm{W}$

ACCESSIBLE BY:



Fort Deseret (the Old Mud Fort) serves as a landmark of Mormon pioneer history and is the only remaining example of the many adobe forts built in Utah. It was built during the Black Hawk War of 1865. The walls were 10 -feet high, 3 -feet wide at the base and 1.5 -feet at the top, resting on a lava rock foundation. The fort was completed in 18 days by 98 men. It was 550-feet square with bastions at the northeast and southeast corner, and portholes giving a view of each side. The fort was never attacked during the war.

## GREAT STONE FACE

GPS COORDINATES:
$39.23408^{\circ} \mathrm{N}, 112.75164^{\circ} \mathrm{W}(\mathrm{A}$ basalt pillar 150 feet tall)
ACCESSIBLE BY:
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Travel north on Hwy 257 from Sunstone Knoll, or south on Hwy 257 from Deseret south and west of Delta. At mile marker 63 , turn west on the marked gravel road. Travel for almost six miles to the north edge of the black lava beds. The gravel road loops around the west side of the hill ending at a small parking area. Trail leads to a geological feature said to resemble Mormon prophet Joseph Smith. Also look for the Great Stone Face petroglyphs at the bottom of the hill.


From Delta, go west on US 6 \& 50 to Hwy 257. Turn south toward Deseret and Milford. Drive 13 miles south to the Clear Lake turnoff. Turn east over the railroad tracks. Reverse the route taken from Fillmore.

## CLEAR LAKE WILDLIFE MANAGEMENT AREA

## GPS COORDINATES:

$39.264852^{\circ} \mathrm{N}, 112.653817^{\circ} \mathrm{W}$

To an early explorer, it must have looked like another desert mirage, a dream. But, Clear Lake is a genuine wetland fed by more than 100 natural springs. Active management enhances the 6,150 acres of wetland and upland habitats. It is a critical stopover point and important nesting area for waterfowl and shorebirds. Clear Lake hosts tens of thousands of birds of nearly 100 species annually. These species include Harrier hawks, Canada geese, various ducks and avocets and other wading species.

## DEVIL'S KITCHEN PETROGLYPH SITE

Hundreds of rock art panels on a long basalt outcrop. Explore and enjoy, but please be respectful of these fragile traces of our heritage. Climbing on or touching the rock art can irrevocably damage images that have survived thousands of years.

## Adventure 7

## AMASA BASIN, \& MILLER CANYON ROCKHOUNDING SITES

GPS COORDINATES:

| Margum Pass | $39.25439^{\circ} \mathrm{N}, 113.36136^{\circ} \mathrm{W}$ |
| :--- | :--- |
| Miller Canyon | $39.14692^{\circ} \mathrm{N}, 113.32470^{\circ} \mathrm{W}$ |
| Sawtooth Canyon | $39.13189^{\circ} \mathrm{N}, 113.34913^{\circ} \mathrm{W}$ |
| Amasa Basin | $39.192963^{\circ} \mathrm{N}, 113.382343^{\circ} \mathrm{W}$ |
| North Canyon | $39.2166^{\circ} \mathrm{N}, 113.3314^{\circ} \mathrm{W}$ |

ACCESSIBLE BY:



Agranitic upthrust in the middle of a limestone formation provides many rock hounding opportunities, and scenic delights. The following can be found in the House Range from Notch Peak through the Amasa Basin: Albite, Biotite, Diopside, Garnet, Molybdenite, Gold, Pyrite, Quartz, Scheelite, Tourmanline, Tremolite, Vesuvianite, and Wollastonite.

Amasa Basin also provides approximately 33 miles of ATV trails ranging from easy to very difficult. The trailhead is in Miller Canyon. Another approach is through North Canyon.

Adventure 8
HERMIT'S CABIN
GPS COORDINATES:
Margum Pass $\quad 39.25439^{\circ} \mathrm{N}, 113.36136^{\circ} \mathrm{W}$ Miller Canyon $\quad 39.14692^{\circ} \mathrm{N}, 113.32470^{\circ} \mathrm{W}$

ACCESSIBLE BY:
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This area is located on the west side of the House Range in the Tule Valley. It is located in the same pink granite upthrust as is the Amasa Basin. Large boulders are strewn across the landscape, some in fanciful forms to be seen by the eye and the imagination.

The Hermit's Cabin is at elevation of 5,581 feet above sea level and was constructed by Bob Stinson. Upon returning home from WWI he learned that his sweetheart married another man. Heartbroken, he traveled west. While making his way through the Marjum Pass just 45 miles from Delta, Bob's vehicle broke down. He located a small natural cave in a side canyon. Stinson walled in the front of the cave creating the Hermit's Cave House, or Hermit's Cabin.

The Hermit of Marjum Pass made a living keeping the pass clear of debris on US 6 \& 50. He also trapped bobcats and coyotes, mixed poisons for the government to kill grasshoppers, and raised some sheep. Some of Stinson's visitors were invited to sample his home brew. Stinson passed away several years ago, but his rustic home still stands.

Please protect the Hermit's Cave for many more generations. Please don't lean on the walls and don't leave your mark in anyway. Always pack out your trash.

Driving Directions: Travel west from Delta on $6 \& 50$ for 32 miles.
Turn right on the Long Ridge Reservoir road. Travel north on the gravel road for 10.4 miles to a 4 -way intersection. Turn left and drive west 12.8 miles to Marjum Pass. The rock house is located in a narrow canyon, which is the last small side canyon on the north side of the Marjum Pass Road.

## PAINTER SPRING

GPS COORDINATES:
$39.264852^{\circ} \mathrm{N}, 112.653817^{\circ} \mathrm{W}$

Continuing west through Marjum Pass one comes to an intersection. Turn left to go to the Painter Springs road. A large water tank and reservoir mark the place to turn east toward Painter Spring. The following can be found in the area: Albite, Biotite, Diopside, Garnet, Molybdenite Gold, Pyrite, Quartz, Scheelite, Tourmanline, Tremolite, Vesuvianite, and Wollastonite.

## Adventure 9

## FOSSIL MOUNTAIN ROCKHOUNDING SITE

GPS COORDINATES:
$38.87583^{\circ} \mathrm{N}, 113.46861^{\circ} \mathrm{W}$

ACCESSIBLE BY:


World-famous Fossil Mountain lies in western Millard County at the southern end of the Confusion Range. Early Ordovician fossil-bearing rock from six distinct rock formations roughly 485 to 470 million years old can be found: House Limestone, Fillmore Formation, Wah Wah Limestone, Juab Limestone, Kanosh Shale, and Lehman Limestone.

Invertebrate fossil specimens to be found include: brachiopods, bryozoans, ceph alopods, conodonts, corals, echinoderms, gastropods graptolites, ostracods (bivalved crustacean), pelecypods, trilobites, and sponges - perhaps the most diverse accumulation of fossils in one small area anywhere.


## Adventure 10

## CRYSTAL PEAK ROCKHOUNDING SITE

GPS COORDINATES:
$38.791712^{\circ} \mathrm{N}, 113.598697^{\circ} \mathrm{W}$

ACCESSIBLE BY:


Nearly 1,000 feet of the Tunnel Spring Tuff, erupted from a nearby caldera about 35 million years ago, makes up Crystal Peak in the Wah Wah Mountains, Millard County. Crystal Peak is visible many miles away as its startling white color varies from that of the surrounding landscape.

This white mountain is believed to be the remnant of a large volcano. Quartz crystals and other rocks and minerals are embedded in the tuff. Pumice is present in the formation. Eroded holes in the face of the mountain attest to the forces of nature sculpting the peak by removing the softer pumice.

Nearby in the Burbank Hills are Devonian to Permian carbonate rocks, named after Margie Burbank Clay, the wife of local Judge E. W. Clay. Fossils include fusulinaceans (fossil shells which can have either one or multiple chambers, some quite elaborate) and stromatoporoids (fossilized sponges).


## Adventure 11 <br> NOTCH PEAK

GPS COORDINATES:
$39.142481^{\circ} \mathrm{N}, 113.409385^{\circ} \mathrm{W}$

## ACCESSIBLE BY:



Notch Peak's sheer cliff juts up about 3,000 feet above the desert floor. It is an amazing site - one of the most dramatic cliff faces in America. It has been called the desert equivalent of Yosemite's El Capitan. The peak is 9,655 feet above sea level. It is in the House Range about 44 miles southwest of Delta. The 9-mile round trip from the trail head off of Miller Canyon to the top offers solitude and spectacular views of the Great Basin in Utah and Nevada. The hike is not difficult, despite the 3,000 foot climb. Only the final .25 miles to the top is relatively steep.

Plan on an all-day hike. Bring plenty of water, as there are no water sources along the trail. Notch Peak is best hiked in the spring and fall.

To drive around Notch Peak, a loop of maintained gravel road is 44 miles west of Delta on US 6 \& 50. The 50 -mile loop circles around peaks in the rugged House Range to Painter Springs. Take Tule Valley road northward to Dome Canyon Pass. This canyon is also known as Death Canyon. It got this name when migrant travelers were stranded and died. Go through the pass, then south around the eastern side of the range and back to the highway. The loop will take at least 2 hours of traveling, plus any time you want to spend sightseeing.


Hell'n Moriah slot canyon trail is located on the south side of the road just before you get to the Notch Peak Trailhead, this trail is an old two-track road that is now in the Wilderness Study area. This hike is approximately two miles into the slot canyon. This slot canyon is unique because it is a limestone slot canyon bringing with it some challenges, this part of the hike should be for someone with experience climbing. Bring ropes, good climbing shoes and gloves. There are several ledges that a hiker will have to navigate, some from only a few feet tall to others approximately ten feet, and limestone can be slick. This fun slot canyon will amaze you when you get to the end and stand several hundred feet above the valley floor looking straight down, the views are stunning. If you love to hike, Hell'n Moriah and Notch Peak should be on your bucket list.

## WILD HORSE VIEWING ON THE WEST DESERT

ACCESSIBLE BY：
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Wild horses can still be found running free on Millard County＇s west desert． Over 300 free roaming mustangs live on approximately 500，000 acres of public lands．

Wild horses can best be viewed in the Swasey HMA located approximately 50 miles west of Delta at the base of Swasey Mountain．The Middle Pond fed via a pipeline from Swasey Spring is the primary water source for horses on the east side of the mountain．Bring a pair of field glasses and scan the flats towards the base of the mountains north and south of the Middle Pond．

Best times for viewing are late afternoon as horses travel to and from the pond for a drink．Other HMAs providing viewing opportunities are the Conger HMA，near Skunk Spring；and the Confusion HMA，located north of Cowboy Pass in the Confusion Mountains．

## ROBBERS ROOST

## ACCESSIBLEBY：

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Robbers Roost is near the Juab－Millard County line at the head of Robbers Roost Canyon near Robbers Roost Spring，four miles north of Swasey Peak． Outlaws robbed the store at Deep Creek，stole horses，and then robbed a Central Pacific Railroad train．They fled into a cave at the Roost and built a rock fort．Eventually they were captured and sentenced in a Nevada court in 1882.

## Adventure 12

CRYSTAL BALL CAVE

GPS COORDINATES：
$39.142481^{\circ} \mathrm{N}, 113.409385^{\circ} \mathrm{W}$

ACCESSIBLE BY：


Crystal Ball Cave is a natural cave located 30 miles North of US 6 \＆ 50 in the Northeast corner of Millard County at Gandy，Utah．With beautiful formations，floors，walls and ceilings of calcite crystal，this cave is truly one of a kind．A cave like no other，think of it as a giant geode that you can walk through．After a short quarter mile hike，a guide will give you a tour of the cave as it follows 600 feet of trails through the mountain．Expect to see stalagmites，columns，cave coral，cave bacon，and many other formations．

Everything is covered in calcite crystals．Crystal Ball Cave is operated by the Bates family as volunteer stewards for the Bureau of Land Management． Tours are available year－round（weather permitting）by appointment only． To schedule an appointment，call 801－787－6675 or go to crystalballcave．com



## GANDY WARM SPRINGS

ACCESSIBLE BY:
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Gandy Warm Springs is a refreshing oasis of tiny waterfalls, pools, caves and crystal clear streams with water temps around 81 degrees. It's a great place to relax in the water and enjoy the beauties of nature. If you're feeling adventurous, you can even explore the cave where the water level leaves just enough room for your head to be above the water. Make sure to include an underwater flashlight and camera to capture the beauty of the underwater cave.

## GREAT BASIN NATIONAL PARK

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Great Basin National Park is a short distance from Crystal Ball Cave and Gandy Warm Springs. Across the Utah-Nevada border', this national park contains immense horizons, dramatic light, forested peaks, and night skies dark enough to quiet the mind. Home of Lehman Caves, Great Básin National Park is a gem of Nevada and the vast, silent Great Basin Desert. The park's 77,000 acres host many of the highest peaks in the state, adorned with some of the oldest trees on Earth. Clutching wind-raked ridges and summits above 10,000 feet, some of these ancient sentinels have experienced the carnival of hues of over a million sunsets, and after death may decorate the alpine with their whimsical forms for a thousand years or more. A round-trip trail walk of about 3 miles will find you at the Wheeler Peak Bristlecone Grove, the most expansive old grove in the Snake Range. Here you can enjoy a contemplative stroll through deep, living history beneath the stoic ramparts of 13,000 -foot Wheeler Peak.

Adventure 13

## SMELTER KNOLL, DESERT MOUNTAIN, KEG MOUNTAIN, JOY MINING DISTRICT, APACHE TEARS ROCKHOUNDING SITE

ACCESSIBLE BY:



North and west of Delta are five areas offering remote geologic sites. Rhyolite formations at Smelter Knoll offer pitted rock suitable for aquariums and flower pots. The remaining four places are located just above the Millard County line in Juab County. Keg Mountain and Desert Mountain are composed chiefly of extrusive and intrusive igneous rocks of Tertiary age. Lacustrine and alluvial deposits of Quaternary age cover the older rocks and fill in the valleys. Topaz, pseudobrookite, specular hematite, and bixbyite occur in cavities in the Keg Mountains Rhyolite.

Drive to the west end of the pavement passing Topaz Mountain. A gravel road will branch off of the main route to the left. Near this intersection one can find Apache Tears (round nodules of obsidian) scattered on the surface of the ground. Apache Tears form if water is present during the cooling of obsidian lava. Curved, onion-like fractures may form. If the central core does not get hydrated, that fresh obsidian core ends up being an Apache Tear.

## Adventure 14 <br> ROCK CLIMBING CLIFFS ON IBEX HARDPAN

## Adventure 15

## TERRITORIAL STATEHOUSE, MUSEUM, \& PARK

GPS COORDINATES:
$38.967679^{\circ} \mathrm{N}, 112.325138^{\circ} \mathrm{W}$

ACCESSIBLE BY:
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Founded in 1851, Fillmore was Utah's first capital. Named after President Millard Fillmore to curry favor for early statehood, Fillmore resides at the center of the proposed state of Deseret.

That state stretched from San Bernardino, CA, through much of the Great Basin into Idaho, Wyoming, Utah, Arizona and Nevada. A territorial capitol building was begun in 1852 at the center of this empire. Today's red sandstone building's original plans called for three levels and four wings, connected by a Moorish dome at the center. Only the south wing of Utah's oldest existing governmental building was completed. The existing portion was finished in time for the December 1855 meeting of the Territorial Legislature, which was the only full session held in the old statehouse. In December 1858, the seat of government was moved to Salt Lake City - long before statehood in 1896.

Territorial Statehouse State Park Museum offers a museum store and auditorium. Also, an All-American Rose Society Garden and picnic areas adjoin the museum. Two restored pioneer cabins and an 1867 stone schoolhouse are also located on the grounds. Camping and lodging facilities are located nearby.



I$n$ the fall of 1849, Brigham Young sent Parley P. Pratt and a group of fifty men to explore southern Utah. This exploring company passed through the Cove Creek area before returning home to recommend the establishment of communities north and south of Cove Creek. Within the next few years, many towns in central and southern Utah were established. The pioneers who built these towns traveled through the Cove Creek region, as did a growing number of traders, trappers and settlers. The Cove Creek area was barren and desolate, but was a midway point between Fillmore on the north and Beaver on the south.

Because of its strategic location, it was determined that this would be an ideal location to construct a fort to provide safety and rest for weary travelers. On April 12, 1867, Brigham Young sent a letter to Ira Hinckley asking him to leave his home in Coalville and travel 220 miles south to supervise the construction of this fort. In a decision that would change his and his family's lives forever, Ira responded that he was prepared to go and would leave on the appointed day. On April 17, Ira left his family behind and departed for Cove Creek. His family would join him seven months later when the fort was completed.


On May 21, 1994, President Gordon B. Hinckley, of the church's First Presidency, dedicated the completed Historic Cove Fort complex for the many thousands who would pause in their travels, to learn, to reflect and to meditate on things sacred and divine.

Today Cove Fort serves as a spiritual way station where visitors are reminded of the faith and sacrifice of their forefathers and the important values of hard work, charity, service and devotion to God and family. Cove Fort is located immediately northeast of the junction of I-15 and I-70, in the southeast corner of Millard County, 20 miles south of Kanosh. The fort has been restored to bring the past a little bit more to life.

## Adventure 17

HISTORY TOUR AT THE GREAT BASIN MUSEUM

GPS COORDINATES:
$39.352038^{\circ} \mathrm{N}, 112.575864^{\circ} \mathrm{W}$

ACCESSIBLE BY:

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The museum has a superb collection of regional fossils and minerals. Ask for the black light demonstration.

Displays replicate early 20th Century local life with many donated original pieces; e.g., an entire stocked wooden general store counter; bygone household, business, farming, and equipment; actual period medical and dental equipment travel, and etc. A working model railroad with a current satellite photo showing the giant imprint left of the no-longer-existent roundhouse at Lynndyl. Let a friendly docent share their personal memories.



## TOPAZ MUSEUM

## GPS COORDINATES:

$39.352020^{\circ} \mathrm{N}, 112.576149^{\circ} \mathrm{W}$

The internment of Americans of Japanese ancestry during WWII caused the Topaz Relocation Camp to become the fifth largest city in Utah. The government and the US Army citing "military necessity," locked up over 120,000 men, women and children from the US coast in 10 remote camps. Two-thirds of them were American citizens.

Internees who were born in Japan were prevented from becoming naturalized citizens by Alien Laws passed as early as 1912.

No person of Japanese ancestry was ever charged with crimes against the US, yet they were incarcerated for up to three years in camps surrounded by barbed wire and armed guards. One such camp was Topaz, located 16 miles northwest of Delta.

For many years few people talked about the camps, but after the Commission on Wartime Relocation, President Ronald Reagan signed legislation to give survivors reparation, and President George H. Bush issued a formal apology and checks for $\$ 20,000$ to those who had been in any of the camps. The Commission had concluded that the causes of internment were "race prejudice, war hysteria, and a failure of political leadership."

Topaz, also called Central Utah Relocation Authority and Abraham Relocation Authority, consisted of almost 19,000 acres of land or 31 sq miles. It opened on Sept. 11, 1942. Internees could come into Delta to shop or work. Some Delta businesses hired them and people became friends.

The town was a square mile with 42 blocks, 36 of the blocks housing administrators and internees. Each block had 12 barracks divided into apartments, a central latrine, and mess hall. The barracks for the internees consisted of apartments of three different sizes: $20^{\prime} \times 14^{\prime}$ was for two or three people; $20^{\prime} \times 20^{\prime}$ was for four people; $20^{\prime} \times 26^{\prime}$ was for five. Families larger than five were given two apartments. The peak population of Topaz was between 8,100 and 8,300, the fifth largest city in Utah at the time.

On September 24, 1944, two Japanese men, Yoshio Nishimoto and Akio Ujihara, temporarily stationed at the Topaz Relocation Center, were prospecting for rocks suitable for their class in lapidary arts. They passed by a large rock protruding about 2 ft above the ground. They noticed it had a different appearance from other rocks in the area. The men suspected they had found something out of the ordinary. A specimen was sent to the Smithsonian Institution and found to be an octahedral meteorite.

The meteor weighed 1,164 pounds and the dimension of 2 feet long, 1.5 feet high and 2 feet wide. It is believed that the meteor was less than 100 years old when found in 1944. The Smithsonian purchased the meteorite from Yoshito and Akio for \$700. Part of the meteor remains in the Smithsonian Institute. It is estimated that the kinetic energy based on size and shape of the meteorite would have been in the order of 20 million foot-pounds.


## MEADOW HOT SPRINGS

GPS COORDINATES: $38.86448^{\circ} \mathrm{N}, 112.503221^{\circ} \mathrm{W}$

## ACCESSIBLE BY:

Starting at Fillmore, travel south on I-15 to Meadow. Take Hwy 133 south through town passing the last houses on the left (about 1.5 miles from the freeway). Turn west on the first gravel road on the right. Travel for about five miles to the west over I-15 staying on the main road. Good fencing and signs will welcome you to the parking area. The spring is about 150 yards south of the parking area.

This crystal-clear 100-degree spring is located on private property. It is available to the public. Strict rules are enforced in exchange for using the springs. Proper attire is required. No overnight camping is allowed.

## Adverture 19 CAMPGROUNDS

## ACCESSIbLE BY:

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Millard County offers several improved campgrounds in the Fishlake National Forest. Relaxation, fishing, hiking, picnicking, nature study and other "rustification" activities are available. Pick from these sites:

## USFS PICNIC AREAS IN CHALK CREEK CANYON

From Main Street in Fillmore, go east on 200 South (Canyon Road) about 2.5 miles. Take Forest Road 100 and go on to Copley's Cove, Shingle Mill and Pistol Rock Picnic Areas.

## USFS CAMP ADELAIDE

This pack-it-in, pack-it-out campground stretches along the creek in Corn Creek Canyon at the south end of the Pahvant Mountain Range. The campsites are tucked into a grove of maple and cottonwood trees that provide some shade. Nearby, pines and summer wildflowers dot the area. The campground has one group site that can be reserved but is also available to single family campers when not reserved. Hiking and biking trails begin nearby (including the Paiute ATV trail). ATVs are allowed in the campground but only for "ingress and egress." Privacy between campsites is fair. Open May 20 through September 15 - weather dependent. Rate: $\$ 12$ per day, 14 days maximum stay. Ten combined Tent or RV sites with grills and tables. No horse camping. Two RV pull throughs with no waste station. Flush toilets and wheelchair friendly toilets. Three water spigots. Brown and Rainbow trout in the stream.

## USFS MAPLE HOLLOW CAMPGROUND EAST OF HOLDEN

GPS COORDINATES:
$39.061656^{\circ} \mathrm{N}, 112.171783^{\circ} \mathrm{W}$

ACCESSIBLE BY:


Open Memorial Day Weekend to Labor Day Weekend. Facilities: Tables, fire rings, water, restrooms, dirt road access, no garbage pickup - please pack out all trash.

Restrictions: Camping is limited to 14 days; ATVs allowed in parking area. Fees: No individual unit fees.

Reservations: Individual units are available on a first come basis,


## USFS MAPLE GROVE CAMPRGROUND SOUTH OF SCIPIO

## GPS COORDINATES:

$39.0152392^{\circ} \mathrm{N}, 112.0896557^{\circ} \mathrm{W}$ (Open May thru October)

Maple Grove Campground in the Fishlake National Forest in Millard County is 6,512 feet above sea level. Travel south of Scipio, on US 50 for 16 miles. Turn west and travel four miles on the main road to the campground. This developed campground offers 22 single-family sites available on a first come, first served basis. There are three group sites available for reservation. Toilets are provided. Potable water is available. A fee of $\$ 10$ per night is charged.

The towering red cliffs of Jack's Peak, streams, a magnificent waterfall, trees, birds and wildlife are here to be enjoyed at this Forest Service campground. Rock Canyon Trail climbs 3.2 miles from the campground to the top of the Pahvant Range. Rainbow trout in Ivie Creek invite fishermen to try their luck.

## USFS OAK CREEK CAMPGROUND OAK CREEK CANYON

GPS COORDINATES:
$39.35031^{\circ} \mathrm{N}, 112.26663^{\circ} \mathrm{W}$

Camping, picnicking, fishing, bird watching, hiking, wildlife viewing
Starting at Delta, travel east on US 50 to the intersection. Continue East on SR 125 to Oak City. Turn east at LDS church on Canyon Road to go to Oak Creek Canyon. Oak Creek Campground is 6188 feet above sea level. This developed campground offers single-family sites available on a first come, first served basis. A fee of $\$ 10$ per night is charged at the campground. Group sites accommodate large get-togethers. Toilets are provided. Potable water is available. On-site are a pavilion and amphitheater built by the Civilian Conservation Corps in the 1930s.

Further up the canyon is another developed campsite known as the Ponderosas, also available on a first come, first served basis.

## Aduenture 20 <br> SAND DUNES

Sand dunes cover a lot of area in Millard County between Holden, McCornick, Oak City and Leamington. Several in the Oak City area are available for recreation.

The Sevier Desert was inundated by waters of prehistoric Lake Bonneville from about 12,500 to 20,000 years ago. At its greatest extent Lake Bonneville was a large freshwater lake covering most of Utah's western valleys and small parts of Idaho and Nevada. Two distinct shorelines were created while the lake occupied this area, the Bonneville (highest) and the Provo shorelines. Each formed when the level of the lake remained relatively constant for hundreds of years.

A large delta formed where the Sevier River entered Lake Bonneville while at the Provo level. This ancient delta extends from the area near the mouth of Leamington Canyon to just north of the town of Delta.

After Lake Bonneville receded, winds dominantly from the southwest began to transport some of the exposed deltaic sand northeasterly, eventually creating the current dune field. Most of this dune field is still active, with dunes migrating between five to nine feet per year.

Generally, the quantity of windblown sand in the dune field increases as one moves farther northeast. A gradual rise in elevation to the northeast and bedrock barriers within the dune field cause the moving sand to slow or stall and accumulate. Generally, the quantity of windblown sand in the dune field increases as one moves farther northeast. A gradual rise in elevation to the northeast and bedrock barriers within the dune field cause the moving sand to slow or stall and accumulate.

## PIONEER CHARCOAL KILNS

GPS COORDINATES:
Leamington $39.53963^{\circ} \mathrm{N}, 112.24815^{\circ} \mathrm{W}$

Originally, four stone kilns were built in this place. In 1882, George Morrison, hired Nicholas Paul to build the ovens. The wood was put through the charge door (the higher window), stacked on end, around and above a wooden fireplace which had been built in the center of the oven, filled with chips and wood shavings to provide tinder for the later fire. The wood continued to be stacked until the oven was full (about 25 cords). A long torch was pushed through to the tinder box to light a fire. The burning fire's oxygen supply was controlled by placing or removing rocks in the two rows of holes, which can be seen around the base of the ovens. Control of the burning wood was determined by the color of the smoke. After six to eight days all the air was shut off, smothering the fire. The ovens and wood were then let cool. The charcoal was removed from the ovens and sold.


## Adventume 21

## GUNNISON BEND RESERVOIR

GPS COORDINATES:
$39.349940^{\circ} \mathrm{N}, 112.631920^{\circ} \mathrm{W}$

ACCESSIBLE BY:
0

Picnicking, fishing, bird watching, swimming, boating, wildlife viewing. The last weekend of February sees the Snow Goose Festival with tens of thousands of migrating snow geese passing through the area. Watersports please visitors Spring through Fall.


## DMAD RESERVOIR

GPS COORDINATES:
$39.394560^{\circ} \mathrm{N}, 112.479867^{\circ} \mathrm{W}$

## ACCESSIBLE BY:

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Picnicking, fishing, bird watching, swimming, boating, and wildlife viewing.

## Adventure 22 OHV/ATV TRAILS

Each ATV trail system in Millard County provides one day of excitement and as many more days as one cares to invest in the grand settings of the Great Basin deserts, forests, mountains and valleys.

There are four excellent ATV trail systems on public land in our western desert. They climb rugged mountains, cross deep canyons and ascend juniper-covered hillsides. The ATV trails in eastern Millard County are part of the Paiute Trail system.

This area is remote - there are no services between Hinckley and the Utah/Nevada state line. The area is also very dry. You must carry any water, food and fuel you think you will need, plus a little extra just in case. Also carry tools and emergency equipment.

Spring and fall months provide the best riding weather. Summers can be very hot but it is still pleasant to ride early and late in the day. Winter nights are cold but days are often mild and riding can be enjoyable.

Cricket Mountains provide approximately 129 miles of trails ranging from easy to difficult. Trailheads are located at Johnson Pass, Little Sage Valley, Cedar Pass and Headlight Canyon.

Burbank Hills provide about 98 miles of trails, which rate from easy to difficult. Trailheads are at Cedar Pass and Red Pass on the east side, and Pruess Lake and Mormon Gap Reservoir on the west side.

Conger Mountain provides 127 miles of trails, which rate from easy to very difficult. Trailheads are located at Little Valley Well and Kings Canyon.

Amasa Basin provides approximately 33 miles of trails ranging from easy to very difficult. The trailhead is in Miller Canyon.

Central Utah's Paiute ATV Trail, part of which falls in Millard County, is a loop trail with no beginning and no end. It passes through several towns and has side trails leading to others. Dirt Wheels rates the Paiute ATV Trail as one of the 15 best trails in the country; while ATV Illustrated rates it as one of the top five trails in the country. Many riders consider the Paiute Trail to be the top in the United States.

The trail is designed to provide an enjoyable recreational ride through fantastic scenery. The trail was formed by connecting old roads and trails through Fishlake National Forest and BLM managed land. Several narrow sections of trail were eventually constructed to complete the loop. The main trail is 275 miles long, with over 1000 miles of marked side trails and over 1500 estimated miles of side forest roads and trails. Due to its vast size, the Paiute ATV Trail is best explored in segments. Spring through fall offers riding opportunities, though each season brings its own experiences and adventures.


## NATIONAL ATV JAMBOREE

The National ATV Jamboree is sponsored by Millard County Tourism and hosted by the city of Fillmore located on Interstate 15. This is a major event among ATV enthusiasts. Fillmore is one of the major trail heads for the nationally-recognized Paiute ATV Trail.

The National ATV Jamboree is held during the last week of June each year. The Jamboree offers a wide variety of trails which can also accommodate side-by-sides. Some trails used during the ATV Jamboree will challenge even the most seasoned riders, or give the beginner a great place to start their riding experience. While riding the trails you can see a variety of wild life, including elk, deer, wild turkeys, antelope and a variety of game birds.

You have approximately 30 rides with a wide variety of scenery from pine and aspen-topped mountains to spectacular wide open desert views. Jamboree participants can tailor their experience to fit their pocketbook. You can pre-pay for meals, t-shirts, and evening events online or mail in your payment with the registration form provided on the website. Pre-paying will ensure your correct tee-shirt size when checking in. We tailor a ride just for women and make it a special event for those who participate. There is an "Early Bird Overnight Ride" for those who like to experience the great outdoors. The "Early Bird Ride" leaves on Monday and returns on Tuesday. This ride is limited to the first 25 riders. Regular registration begins on Tuesday afternoon with a welcome dinner and entertainment that evening. Scheduled rides begin Wednesday morning and end with short guided rides on Saturday.

Your local guide can describe the geology of the area along with history and stories to enhance your riding experience. While at the Jamboree you can participate in special events, including: ATV/UTV Pulls, Mud Boggs, ATV/UTV Drag races, and an ATV Obstacle Course. You can sign up for special evening meals, then sit back and listen to free entertainment.

## Adverture 23 <br> LITTLE SAHARA RECREATION AREA

## GPS COORDINATES:

$39.43952^{\circ} \mathrm{N}, 112.16876^{\circ} \mathrm{W}$

Administered by the Bureau of Land Management, Little Sahara Recreation Area is mostly devoted to off-road vehicle use. The Rockwell Natural Area, located in the northwest corner of Little Sahara, is a 14 -square-mile section off limits to vehicles in order to preserve and shelter desert plants and animals.

## GEOLOGIC INFORMATION

The Little Sahara sand dunes, located in the northeastern part of the Sevier Desert in western Utah, lie within the northern half of one of Utah's largest dune fields (about 220 square miles). This dune field contains both actively forming or migrating dunes and plant-stabilized dunes.

Little Sahara is not just one type of riding. With nearly 60,000 acres of dunes, trail and sagebrush flats, you've got options - plenty of them.

## SAND MOUNTAIN

A wall of sand climbing nearly 700 feet high provides the ultimate challenge to rider and machine. This is the prime-time focal point for hill climbing.

## WHITE SANDS DUNES

Easy access to dunes and plentiful riding bowls attract riders of all abilities to this spot on the north end of the recreation area.

## DUNES SOUTHWEST OF BLACK MOUNTAIN

Low-lying dunes provide good terrain for beginners or for those who just want to get away from the crowds.

## BLACK MOUNTAIN

A network of dirt trails up, over, and around this peak offer excellent trail riding for just about any kind of off highway vehicle.

## CAMPING WHITE SANDS

Campsites nestled among the juniper and immediate access to dunes make this a popular destination. 99 campsites, flush toilets (vault in winter), drinking water, fenced play area.

## Adventure 24 <br> FATHER DOMINGUEZ \& ESCALANTE'S 1776 ROUTE THROUGH MILLARD COUNTY

## ACCESSIBLE BY: <br> 

n October 1776, the two padres entered Millard County in their search for a direct route from Santa Fe, NM to Monterey, CA. They came from the north near Scipio having just left the Sevier River near Mills, UT. The expedition left Round Valley (Scipio) and traveled through Eight-Mile Canyon. Their route went westward toward Pahvant Butte near Clear Lake. They skirted around the marshes turning south, following the Beaver riverbed. They covered about 80 miles in Millard County and exited the county near Hwy 257 on the way to Milford.

Cement pylons or obelisks mark much of the route from Pahvant Butte to the Graymont Lime Plant on Hwy 257.
"...because of some delicate white shells which we found, it appears there has been a lake much larger than the present one (Sevier Lake), we observed the latitude and found it in $39^{\circ} 34^{\prime} 36^{\prime \prime}$. This observation was made by the sun almost in the middle of the plain, which from north to south must be little less than 30 leagues ( 90 miles), and from east to west 14 leagues ( 42 miles). In most places it is very short of pasturage and although two rivers enter it, the Santa Ysabel (Sevier near Mills) from the north, and a medium-sized one (Sevier near Deseret or the Beaver River) whose waters are very salty, from the east, we saw no place whatever suitable for settlement." - Escalante journal, October 1, 1776.

## CENTERFOLD MAP KEY

Antelope Springs Trilobite Rockhounding Site

Sunstone Knoll Rockhounding Site
Topaz Mountain Rockhounding Site
Agate Hill Rockhounding Site
Amasa Basin Rockhounding Site
Painter Spring Rockhounding Site

Crystal Peak Rockhounding site

11 Obsidian Beds Rockhounding Site
12 Smelter Knoll Rockhounding Site

18 Rock Climbing Cliffs on Ibex Hardpan
19 Elephant Rock Arch in King's Canyon
20 Territorial Statehouse, Museum, \& Park
Old Cove Fort
Topaz WWII Internment Museum
Great Basin Museum
WWII Topaz Relocation Camp site
Old Fort Deseret
Gunnison Massacre site

29 Lace Curtain
Pahvant Butte
Devil's Kitchen
Lava Flows
Lava Tubes
Tabernacle Hill
Hole in the Rock
Meadow Hot Springs
Alpine Route
USFS Camp Adelaide
USFS Camps in Chalk Creek Canyon
USFS Maple Grove Campground
USFS Maple Hollow Campground
USFS Oak Creek Campground
Sand Dunes
Pioneer Charcoal Kilns
45 Little Sahara National Recreation Area
46 Sinbad
47 Painted Rock
48 Gunnison Bend Reservoir
49 Border Inn
50 Great Basin National Park/Lehman's Caves
51 Dominguez Escalante Trail
52 Fremont Indian State Park

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