

Explorers and Pioneers

Who was:

Father Francisco Garces

Seeking to open a land route between Tucson and California, Fray Francisco Garces explored the desert regions in 1775 and 1776. By the end of February 1776, he had reached the Mohave Villages located a few miles south of this location on the Arizona bank of the Colorado River. The Franciscan Father traveled alone in areas never before seen by a European American. Relying on Native American guides, he walked from village to village. The Mohaves agreed to lead him to the coast along a trail used for trade purposes. On March 4, 1776 accompanied by four natives, Garces crossed the Colorado River, reaching the San Gabriel Mission in California twenty days later. His route followed a much older prehistoric trail used to bring shells and other trade good to the tribes of the mountain and desert West. Garces Street in downtown Las Vegas is named after him.

William S. "Old Bill" Williams

"Old Bill" Williams (1787 - 1849) was a mountain man and frontiersman who served as an interpreter for the government, and led several expeditions in the West. Fluent in several languages, he lived with the Osage, where he married the daughter of a chief, and with the Ute. In late 1849, Williams joined Fremont's doomed 4th Expedition, in which 10 men died trying to survey for a transcontinental railway line through the Sangre de Christo range (during winter). Williams left the group on a safer route but was killed by Ute Indians when he tried to return to find survivors. The town of Williams, AZ, gateway to the Grand Canyon and starting point for the Grand Canyon Railway, is named for "Old Bill."

Jim Bridger

James Felix "Jim" Bridger (1804 – 1881) was one of the most famous fur-traders, trappers and guides in the American West during the 1820's – 1860's. Over the years, he worked with many other eventually famous persons of his time including Brigham Young, Kit Carson, George Armstrong Custer, John Fremont, Joseph Meek, and John Sutter. Some Bridger highlights include his being among the first white men to see Yellowstone, and (possibly) the first to see the Great Salt Lake. In 1830, Bridger formed the Rocky Mountain Fur Company, competing with the Hudson's Bay Company and John Jacob Astor's American Fur Company. In 1843, Bridger and Louis Vasquez built a trading post, later named Fort Bridger, on the Blacks Fork of the Green River to serve pioneers on the Oregon Trail. Bridger is also remembered for his trailblazing, including in 1850 finding a pass (later named Bridger Pass) that shortened the Oregon Trail by 61 miles, and in 1864 creating the Bridger Trail, an alternate route from Wyoming to the gold fields of Montana that avoided the dangerous Bozeman Trail. Around that time, he also served as a guide and army scout during the first Powder River Expedition against the Sioux and Cheyenne that were blocking the Bozeman Trail. Bridger retired to Missouri in 1868 and died in Kansas City in 1881. The street in downtown Las Vegas is named after him.

Pegleg Smith

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Thomas L. "Pegleg" Smith was a mountain man, trapper, guide, and criminal. In the 1820's and 30's he worked for John Jacob Astor as a fur trapper with other mountain men such as Kit Carson and Jim Bridger. Later, he guided groups through the American Southwest. During this time, he was shot in the knee and received a wooden leg and his nickname. In the 1840's, in the Southwest, he began kidnapping Indian children and selling them as slaves. When the tribes began searching for him to extract justice, he went to California, and for a decade was a notorious horse thief, in one case stealing over 150 horses from Spanish ranchers. In the later 1850's & into the 1860's Pegleg Smith operated as a bogus seller of mining claims. He died in San Francisco in 1866.

Brigadier General Benjamin Bonneville (1796 – 1878) is the namesake for Bonneville Street in downtown Las Vegas. Bonneville was born in Paris, France but his parents had become close friends with famous political-thinker/author Thomas Paine, who had lodged with them in France in the 1790's. Paine's best-selling book, "Common Sense," had helped start the American Revolution. Paine lived in France in the 1790's and was also heavily involved in the French Revolution. Bonneville's mother cared for Paine until his death, and he was Benjamin's godfather; In 1803, when Benjamin was 7, they moved to Paine's home in New Rochelle, NY. When Paine died in 1809, he left much of his estate to the Bonneville's. Bonneville went to West Point in 1813 and after graduating in 1815 received commissions in the US Army. He served in posts in MS, Arkansas Territory, and the Indian Territory. He was inspired to explore the West and in 1832 was able to secure a leave from the military to lead a group of 110 men through much of the Oregon Territory. The expedition was financed by John Jacob Astor, rival to the British Hudson's Bay Company, which controlled the region. While the stated goal was to explore and map fur-trapping and trading locations, and travel routes, many believe that Bonneville's 1832 expedition was an early US government-backed expedition aimed at asserting claims in the region, possibly including fomenting an invasion of California by the US Army (which did not happen at that time.)

A few of the notable events during the expedition include

- the founding of the fur-trading post of Fort Bonneville on the Green River
- the offshoot group led by John Walker exploring the Salt Lake Region and finding a new overland route to California along the Humboldt River and through (newly named) Walker Pass through the Sierra Nevada. This route became known as the California Trail, the primary route to the California gold fields. They spent three years exploring the region. In 1837, Bonneville gained fame when his adventures were immortalized in a best-selling book by Washington Irving, "The Adventures of Captain Bonneville." During the Civil War, Bonneville attained the rank of brevet Brigadier General.

Kit Carson

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Kit Carson is one of the most famous “frontiersmen” and “Indian fighters” of Western American history. During the 1840’s, he was hired to guide John C. Fremont’s western expeditions, exploring the Oregon Trail & Territory, the Great Basin, and the Sierra Mountains to California. **The descriptions of Carson in Fremont’s reports turned Carson into a dime-store novel hero.** Later, Carson worked for the US government in Arizona and Colorado to handle “Indian problems,” and had a key role in the spring of 1864 in the forced relocation of 8,000 Navajo 300 miles from Fort Canby to Fort Sumner, New Mexico. During this journey, which the Navajo call the “The Long Walk,” over 300 Navajo died. More died in the time spent enduring the harsh environment at their ill-equipped new home, and then in the 1868 return to their homeland and new reservation.

John C. Fremont

John C. Fremont is one of America’s most famous explorers of the lands west of the Mississippi. He is sometimes referred to as “The Great Pathfinder.” Fremont participated in various western explorations during the 1830’s, and married the daughter of an influential US Senator from Missouri, Thomas Hart Benton. Benton championed Manifest Destiny and pushed Congress to authorize explorations of the West, including the Oregon Trail & Territory, The Great Basin and the Sierra Mountains to California. Benton also successfully pushed for Fremont to lead these groups, and so, **in the 1840’s, Fremont undertook four expeditionary groups through the west, enlisting the assistance of guide Kit Carson, whose fame has even eclipsed Fremont’s. Some of the things Fremont and his expeditions are credited with include:**

- Being the first American to see Lake Tahoe.
- Determining the Great Basin as endorheic.
- Mapping volcanoes such as Mt St Helens.
- Inspiring the Mormons to consider Utah for settlement.
- Cataloguing/collecting many plants, including the first recorded discovery of Single-leaf Pinyon Pine by a European-American.
- **MOST IMPORTANTLY!: PUTTING VEGAS ON THE MAP. Literally.** In 1845, Congress published Frémont's "Report and Map." Fremont had stopped at the Las Vegas Springs in 1844 and wrote about the springs and the basin in his report. This resulted in Las Vegas becoming a regular stop for travelers between the east and California.

Frémont's report was more than a travelers' guide – it was a government publication that achieved the expansionist objectives of a nation and provided scientific and economic information concerning the potential of the trans-Mississippi West for pioneer settlement.

In addition to his expeditions, Fremont participated in the Mexican-American War (including rashly ignoring orders and teaming up with the Bear Flag Republic, for which he was court-martialed), fought Indians (including undertaking a retaliatory massacre of Klamath Indians in Oregon), held governmental and military positions such as California Territory Governor, Senator of the State of California (one of the 1st two), and Arizona Territory Governor. He even twice ran for US President; First, in 1856 under the new anti-slavery Republican Party, losing

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to James Buchanan and next, a brief challenge to Lincoln's second term. During the Civil War, Fremont held various Union military leadership positions, including a controversial term as commander of the Army's Department of the West from May to November 1861, during which Fremont issued an emancipation proclamation for the State of Missouri. Lincoln was concerned this was premature and could cause the state to shift Confederate, so he ordered Fremont to rescind the order. When Fremont refused, Lincoln excused him from duty in the West and sent him to fight "Stonewall" Jackson in Virginia.

Prior to the end of the war, Fremont returned to New York. Later, he held the title of Governor of the Arizona Territory, and also briefly owned the Southern RR. He retired to Staten Island, NY and died there in 1890.

Many places are named in Fremont's honor, including, of course, Fremont Street in downtown Las Vegas. (As someone in the know, don't make the mistake of spelling Fremont with two e's!)

Hosea Stout

Hosea Stout was a close associate of Joseph Smith, an early and prominent Mormon leader. He played instrumental roles in the Mormon's moves prior and to Salt Lake. One of the primary things he is remembered for was that he kept a detailed diary, "The Diary of Hosea Stout, a treasure for LDS Church historians. In the diary, he recorded details of his 1852 journey from SLC to Los Angeles, including contact with Native Americans near present-day Overton.

Octavius Decatur Gass

Known as O.D., Gass was, like many others, a failed prospector during the California Gold Rush and later in the Eldorado Canyon area. So, he tried his luck at providing supplies and R&R to miners. In 1865, Gass and a few partners took over the former Mormon Fort in Las Vegas and developed it into a ranch of 640 acres. In 1872, Gass bought out his partners. Farming on the ranch produced grain, vegetables and Mexican pink beans, and orchards produced apples, peaches, figs and apricots. There was even a vineyard which produced grapes for wine, one of the ranch's main attractions for travelers. Gass also raised horses and cattle, which were driven to Eldorado Canyon where beef sold at a premium. The ranch became a popular way station on the road to California. During his time at the ranch, Gass still pursued other opportunities, including investing heavily in Callville, which he believed would become an important port on the Colorado. The railroads removed the need for a port in Callville, and his hopes for the town never materialized. At the time, present-day Clark County, NV was part of the newly created (1864) Arizona Territory, and Gass took an active interest in government. He became a representative of the AZ Territory and in 1865 was instrumental in getting the (now Clark County, NV) area classified as a new county – Pah Ute County, which he represented. The county seat was Callville. However, everything changed when Nevada Senators, including James Nye, convinced the US Congress to make Pah-Ute County part of Lincoln County, Nevada. Although Gass and other Arizona Representatives protested; and Gass in fact basically ignored the change and continued to represent Pah Ute County in the AZ Territorial Legislature, in 1869 the change was upheld by Congress in, forcing him to accept it. In fact, Lincoln County then demanded two years of back taxes from Gass. Since many settlers in the region chose to leave, income at the ranch declined, but Gass stayed on. While his political

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power was mostly gone, Gass did become Justice of the Peace for Lincoln County in Las Vegas. Also, in 1872, he married the niece of Ulysses S Grant, who had moved to St. Thomas. They had six children together and continued to operate the ranch. But they had a few bad crops and Gass took loans to get by. In 1879, he was unable to repay a \$5,000 loan to Archibald Stewart, and Stewart foreclosed on the ranch. Gass and his family left with their possessions, including 1,500 head of cattle, and moved to California. Gass ranched, farmed, and prospected in California, mostly unsuccessfully, and died in Redlands, CA in 1924.

Helen Stewart

Helen Stewart, originally from Sacramento, California, is remembered as the “First Lady of Las Vegas.” In 1880, Helen and her successful rancher and businessman husband, Archibald Stewart, acquired the 960 acre Las Vegas Ranch (built on the former Mormon Fort lands) from Octavius Decatur Gass when Gass defaulted on a \$5,000 loan they had made him. In 1882, the Stewarts moved their young family from Pioche to the ranch, possibly not intending to stay for too long, but in 1884, Archibald Stewart was killed, possibly murdered, over a dispute with a former employee now working on the neighboring Kyle (Kiel) Ranch. For a variety of factors, including initially not being able to sell the ranch, followed by land speculation on word of the coming railroad, Helen stayed in Las Vegas, raised her family there and continued the ranch. She became the first postmaster of “Los Vegas.”

In 1903, she sold the ranch and its water rights to the SP, SL & LA RR for \$55,000. In 1905, the RR sold lots in the townsite they created on the Ranch land, establishing the town of Las Vegas, now “downtown Las Vegas.” Helen remained a vital part of the LV community until her death in 1926.

William A. Clark

William A. Clark is considered by many to be the founder of modern Las Vegas, and is the namesake for Clark County, NV. (The downtown Las Vegas street, however, is not named for W.A. Clark, but William Clark, of Lewis & Clark fame.) William A. Clark owned the SP, SL & LA RR, which chose Las Vegas as a mid-way stop for the railroad between Salt Lake & Los Angeles. In 1902, to get the town established and ensure his steam engine trains had a ready supply of water when traveling through the arid desert, Clark and his RR bought the Las Vegas ranch (including its water rights) of Helen J. Stewart. In May of 1905, the railroad subdivided a portion of the ranch into blocks and lots and auctioned the lots in a two day auction. The auction was a huge success with all lots being sold. Las Vegas was born and the railroad was an integral part of the town’s growth until it closed its yard and moved it to Pioche in 1922. Clark had made his fortune in Montana copper mines and had parlayed his wealth into (bought) political power via a US Senate seat. At the time, US Senators were elected by state assemblies, and it was openly-known that Clark paid large bribes to obtain the necessary votes. When Clark was first “elected,” the US Senate refused to seat him because of the bribery accusations.

Clark left DC but returned to Montana, where through more cunning work and bribery, he ended up obtaining the seat back. At one point, Clark was the wealthiest person in the world. He retired to an ostentatious home he built on Fifth Avenue in NYC, where he died in 1925. His reclusive youngest daughter, Hugette Clark, died in NYC in 2011 at age 104, leaving an

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estimated \$400 million estate to be contested between arts groups and distant relatives.

Assorted info:

Who were the Donner Party?

The Donner Party was a group of pioneer families who in 1846 undertook the trek from Missouri to California and attempted a "short cut" proposed by entrepreneur Lansford Hastings (which came to be called the Hastings Cutoff) through the Great Salt Lake Desert. Difficulties in crossing the desert delayed the group in reaching the Sierra Nevadas and they became stuck in the Sierras, near Truckee (now Donner) Lake (about 11 miles north of Tahoe) in November of 1846. Weather and the Mexican-American War delayed their rescue until Feb and March of 1847. Of the 80+ persons starting with the group, almost half died, and many of the survivors resorted to cannibalism to survive.

Who were the Mormon Battalion?

The Mormon Battalion is the only US military unit ever organized on the basis of religious belief. At the time, The Mormon's The Battalion was placed into service for the Mexican-American War and served from July 1846 to July 1847. The battalion was a volunteer unit of about 550 Mormon men led by Mormon company officers, but commanded by regular US army officers. During its service, the battalion made a grueling march of nearly miles, from Council Bluffs, Iowa, to San Diego. The battalion's march and service was instrumental in helping the US secure much of the American Southwest, including new lands in several Western states, especially the Gadsden Purchase of 1853 of much of southern Arizona. The march also opened a southern wagon route to California. Veterans of the battalion played significant roles in America's westward expansion in California, Utah, Arizona and other parts of the West.

What is the history of...?

(This applies to some of the places listed below): In 1865 Brigham Young sent 75 families to settle the area near where the Muddy and Virgin Rivers meet the Colorado River, to grow cotton for the people of Utah; part of Young's goal with the settlements was to connect Utah with the Pacific Ocean via the Colorado River. However, a December 1870 survey placed the valley in Nevada which meant property owners owed back taxes to Nevada. The settlers, by then including those in the towns of St. Thomas, Overton, West Point, and St Joseph, began leaving two months later. They abandoned the results of 7 years of labor, more than 18 miles of irrigation canal and several hundred acres of cleared land. Other Mormons resettled the land in the early 1880's. The area remains one of the most agriculturally productive in the state.

St. Thomas

Located on the Muddy River near its junction with the Virgin River, the "Cotton Mission" was named St. Thomas for its leader, Thomas Smith. In the mid to late 1860's, a prosperous, self-contained agricultural industry was built up in the valley, which included orchards, vineyards, cotton, grains, and vegetables. When Boulder Dam was completed and Lake Mead filled, St

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Thomas was abandoned and submerged by the lake. Today, the lake has lowered enough so that the town (at least the foundations that are left) have resurfaced and are visible near the eastern exit of the Valley of Fire SP.

St. Joseph

St. Joseph is the original name of the settlement / town in the Moapa River Valley now known as Logandale. St. Joseph, first founded in 1865, and moved a few miles in 1869, was one of the communities in the area settled by Mormons. By late 1869, the community had grown to a few hundred persons, almost the size of nearby St. Thomas, and was named the county seat of the Rio Virgen County of the Utah Territory. After a US government survey placed the area in Nevada, in 1871 the residents of St. Joseph, along with most other Mormons in the area, abandoned the town and moved north to Utah. However, in the early 1880's the town was resettled and was known as Logan's Ranch, later to be called Logandale. St Joseph/Logandale is about 11 miles northwest of the site of the first local settlement, St Thomas, and about 4 miles north of Overton.

Callville

In 1864, seeing the viability of steamboat travel to transport supplies and immigrants, Mormon leader, Brigham Young recruited Bishop Anson Call to establish a colony and build a warehouse on the Colorado River. Brigham Young's 1864 instructions to Anson Call were: *"Take a suitable company, locate a road to the Colorado, explore the river, find a suitable place for a warehouse, build it, and form a settlement at or near the landing."*

Call settled upon a location approximately 15 miles upstream from present day Hoover Dam. Call's Landing (also referred to as Call's Fort and Old Callville) became a permanent settlement with homes, warehouse and irrigation systems. Supplies intended for the newly established Mormon communities in the west traveled from New York and other eastern cities to Panama. From there goods were shipped to the west coast of Mexico, through the Gulf of California and up the Colorado River to Call's Landing. This once-thriving community is known today as Callville. When construction for Boulder Dam began, portions of the old warehouse still existed. Callville became submerged when Lake Mead was formed by the damming of the Colorado River.

Bunkerville

From James McClintock, 1921, *Mormon Settlement In Arizona: A Record Of Peaceful Conquest Of The Desert*: "Bunkerville, settled January 6, 1877, was named for Edward Bunker, a member of the Mormon Battalion. To a degree it has become connected with Arizona through the fact that lands in its vicinity are to be irrigated from a reservoir to be established upon the Virgin within Arizona.

Bunkerville had elaborate organization under the United Order, and it is agreed that the large amount of irrigation work accomplished hardly could have been done under any other plan. The organization lasted until the summer of 1879, it being found that some of the members, "through their economy and industry were gathering and, laying up in abundance, while others, through carelessness and bad management, were wasting the funds of the company, each year being increasing in debt." This was very unsatisfactory to those whose ambition was to assure at

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least the necessities of life. The Mesquite settlement, across the Virgin from Bunkerville, was established in 1880, but was abandoned a few years later, again to be settled in 1895, from Utah.”

A more recent take from Wikipedia: Bunkerville was settled in 1877 by Mormon pioneers from Utah. It is named after Edward Bunker, who was already a seasoned pioneer settler before he came to Bunkerville, having pioneered the settlement at Santa Clara, Utah.

Bunker, on his own initiative but with permission from Brigham Young, moved his large polygamous family 25 miles southwest to Bunkerville after the settlers in Santa Clara had failed to live the communitarian United Order. The residents of Bunkerville, so named by Brigham Young, established a new communal effort, sharing the work and the fruits of their work, with all land being held in common. The communal experiment ended in 1880.

Logandale

See above info on St. Joseph. Logandale is the name given to the former town of St Joseph after it was resettled in the early 1880's. Located in the Moapa River Valley, along with Overton.

Overton

Overton is in the southern section of the Moapa River Valley, below Logandale (St Joseph) and about 7 miles north of the former town, now ruins, of St Thomas. Overton was settled by Mormon pioneers in 1868 and was the location of the only store in the lower Moapa Valley. Although abandoned in the 1870s, it was resettled in the 1880's and later was a stop on the SL & LA RR, as well as of the Arrowhead Hwy. When St Thomas was submerged in the 1930's, many of St Thomas' residents relocated to Overton. Overton is the closest town to the Lost City Museum and the east entrance of the Valley of Fire SP.

St. George

St. George is the population and commercial center of Utah's Dixie, a nickname given to the area when Mormon pioneers grew cotton in the warm climate. St. George's trademark is its geology — red bluffs make up the northern part of the city with two peaks covered in lava rock in the city's center. The northeastern edges of the Mojave Desert are visible to the south. Zion National Park can be seen to the east, and the Pine Valley Mountains loom over the city to the north and northwest. The climate has more in common with the Desert Southwest than the rest of the state, with hot summers and mild, mostly snowless winters.

St. George was founded as a cotton mission in 1861 under the direction of Brigham Young, the President of The Church of Jesus Christ of Latter-day Saints (the Mormons or LDS Church)— part of a greater church effort to become self-sufficient.

While the early settlers did manage to grow cotton, it was never produced at competitive market rates; consequently, cotton farming was eventually abandoned.

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At the outbreak of the American Civil War in 1861, Brigham Young organized the settlement of what is now Washington County, Utah.

Fearing that the war would take away the cotton supply, he began plans for raising enough in this western country to supply the needs of his people. Enough favorable reports had come to him from this warm country below the rim of the Great Basin, that he was convinced cotton could be raised successfully here. At the general church conference in Salt Lake City on October 6th, 1861, about three hundred families were "called" to the Dixie mission to promote the cotton industry. Most of the people knew nothing of this expedition until their names were read from the pulpit; but in nearly every case, they responded with good will, and made ready to leave within the month's time allotted to them. The families were selected so as to ensure the communities the right number of farmers, masons, blacksmiths, businessmen, educators, carpenters, as needed.

The settlement was named after George A. Smith, an apostle of The Church of Jesus Christ of Latter-day Saints.

In April 1877, the LDS Church completed the St. George Utah Temple. It is the Church's third temple, and, currently, its longest continually operating temple.

The pioneers planted mulberry trees throughout the valley to be used to feed the silkworms that they used to produce silk. The last line of these trees exist on Pomegranate Way in Bloomington.

Nuclear testing fallout:

On May 19, 1953, the United States government detonated the 32-kiloton (130 TJ) atomic bomb (nicknamed "Harry") at the Nevada Test Site. The bomb later gained the name "Dirty Harry" because of the tremendous amount of off-site fallout generated by the bomb. Winds carried fallout 135 miles (220 km) to St. George, where residents reported "an oddly metallic sort of taste in the air."

The Howard Hughes motion picture, *The Conqueror*, was being filmed in the area of St. George at the time of the detonation. The fallout is often blamed for the unusually high percentage of cancer deaths among the cast and crew.

St. George received the brunt of the fallout of above-ground nuclear testing in the Yucca Flats/Nevada Test Site northwest of Las Vegas. Winds routinely carried the fallout of these tests directly through St. George and southern Utah. Marked increases in cancers such as leukemia, lymphoma, thyroid cancer, breast cancer, melanoma, bone cancer, brain tumors, and gastrointestinal tract cancers were reported from the mid-1950s through 1980.

A 1962 United States Atomic Energy Commission report found that "children living in St. George, Utah may have received doses to the thyroid of radioiodine as high as 120 to 440 rads" (1.2 to 4.4 Gy).

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St George area Geology:

In Southern Utah, soil and rock formations are red in appearance due to the presence of iron oxide. Although portions of the older section of the city (particularly the southern part near the Virgin River) lie on floodplain alluvium, much of St. George is built directly upon Jurassic, Triassic, and Permian period sedimentary bedrock. The following formations—listed in chronological order—can be found within the city limits.

Kaibab Limestone (Permian): Grey fossiliferous limestone, exposed at the center of the Virgin River anticline along Horseman Park Drive and in the low hills to the south of South Bloomington Hills.

Moenkopi Formation (Triassic): Chocolatey-red and white banded mudstone, shale, limestone, and siltstone containing thick layers of gypsum, exposed at Bloomington, South Bloomington Hills, and the south side of Webb Hill.

Shinarump Conglomerate (Triassic): Yellow to brown cliff-forming sandstone and conglomerate containing fossilized oyster shells and petrified wood. Forms the cliff faces north of Bloomington, on Webb Hill, and along the Virgin River south of 1450 South Street. This is actually the lowest member of the Chinle formation.

Chinle Formation (Triassic): Purple, white, grey and locally green bentonitic shale weathering to clay. Because of the softness of the strata, structures built on this formation run a higher risk of settling or slippage. The Chinle formation underlies large portions of St. George, including North Bloomington Hills, much of Green Valley, and much of the east part of the city around Riverside Drive and Pine View High School.

Moenave Formation (Jurassic): Red and orange sandstone, siltstone, and mudstone. There is some confusion about distinguishing between the Springdale sandstone member of the Moenave formation and the overlying Navajo sandstone, which is similar in appearance, in the St. George area. It is now generally assumed that the red cliffs to the north of the old part of the city (north of Red Hills Parkway) and at the Dixie Red Hills golf course are part of the Moenave formation. Other exposures include cuts into the east and west Black Hills and the southern part of Dixie Downs.

Kayenta Formation (Jurassic): Red, orange, and purple sandstone, shale, and mudstone. Forms slopes below the massive Navajo sandstone in the northern part of the city including northern Dixie Downs and along Snow Canyon Parkway.

Navajo Sandstone (Jurassic): Grey to brown, red, and (in its upper layers) white massive sandstone. Forms cliff faces above Snow Canyon Parkway and white outcrops at Winchester Hills.

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Basaltic lava flows from the Quaternary period form the black ridges to the east and west of the old part of St. George city. The volcanic eruptions producing these flows are thought to date back 1.2 million years.

St. George straddles the line between the Colorado Plateau region to the east with its mesas, and the basin and range to the west with its broad landscapes and cactus forests. Other points of geologic interest include the Virgin River anticline; the rock has eroded away in the center leaving shear walls surrounding the "Purgatory Flats" area to the east of St. George. Another geologic feature is Pine Valley Mountain, composed of one solid piece of granite, it is one of the largest laccoliths in the world.