

# Selected Topics related To Hurricane, Utah

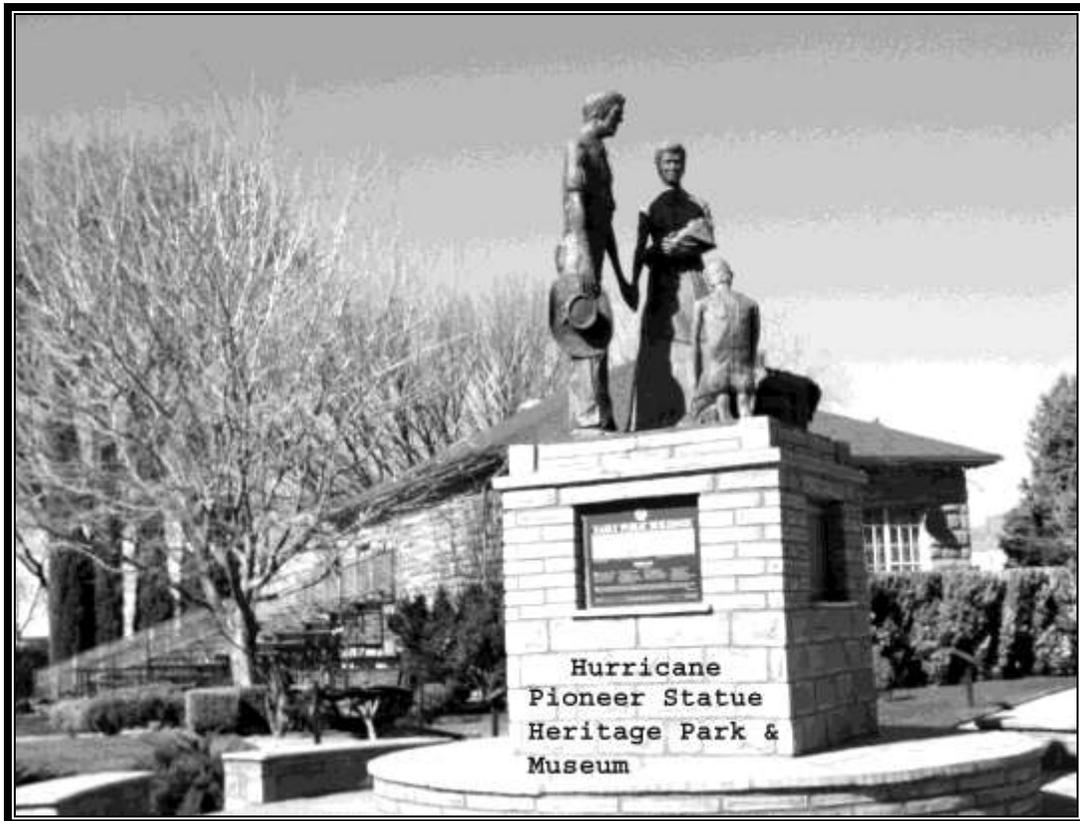
Written and/or  
Compiled by:

Victor Hall

## Selected topics relating to Hurricane, Utah

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Victor Hall, 2003



## **GEOLOGY OF THE HURRICANE VICINITY**

### Physiographic Regions.

(1) Colorado Plateaus.

(2) Basin & Range. (The Great Basin is a major subdivision)

The Hurricane Hill forms part of the boundary between two major physiographic regions, the Colorado Plateaus to the east and Basin and Range province to the west.

Colorado Plateaus are generally much higher and the strata tends to be level, much as they were when being laid down.

The Basin and Range province is mostly tilted, twisted or folded. North-South oriented mountain ranges traverse it, products of thousands of faults that have wracked the area. It tends to be much lower in elevation. Two examples: (1) St. George lies nestled in the same layer that is found almost 3,000 feet higher in Zion; (2) as the freeway descends through the Virgin River canyon, it cuts through the same strata that comprise the Grand Canyon but that are 4,000 feet higher in the Park.

### ROCK CATEGORIES

(1) Igneous. All rock begins as igneous; it is hardened magma from the earth's interior. If it cools quickly at the surface, the component minerals do not have time to coalesce and it remains amorphous--- lava etc.

If it cools slowly below the surface, the components have time to come together and form crystals-- granite, porphyry, etc.

(2) Sedimentary. Recycled from earlier rocks. Sandstone, limestone, etc.

(3) Metamorphic. Igneous or sedimentary rocks that have been changed in form primarily by heat and pressure.. Slate from shale; marble from limestone; diamonds from coal etc.

### GEOLOGIC ERAS IN THE AREA

(1) Paleozoic or "Old Life".

(2) Mesozoic or "Middle Life", the era of Dinosaurs.

(3) Cenozoic or "New Life", the age of mountain building and of humans.

The Paleozoic Era is represented by the sedimentary Kiabab Limestone that makes up most of Hurricane Hill; it is the same as the top layer at Grand Canyon; it is also encountered as the freeway approaches the Virgin River Canyon. Only sea creatures are believed to have existed during the Paleozoic.

The Mesozoic Era accounts for all the colored and white sedimentary rock and soil in the area. At least three sets of dinosaur tracks can be found nearby, one set in Warner Valley, another along North Creek by the Subway trail and the newly discovered tracks in St. George. It is important to note that this area was at sea level, just below sea level, or just above sea level throughout most of the Paleozoic and Mesozoic Eras.

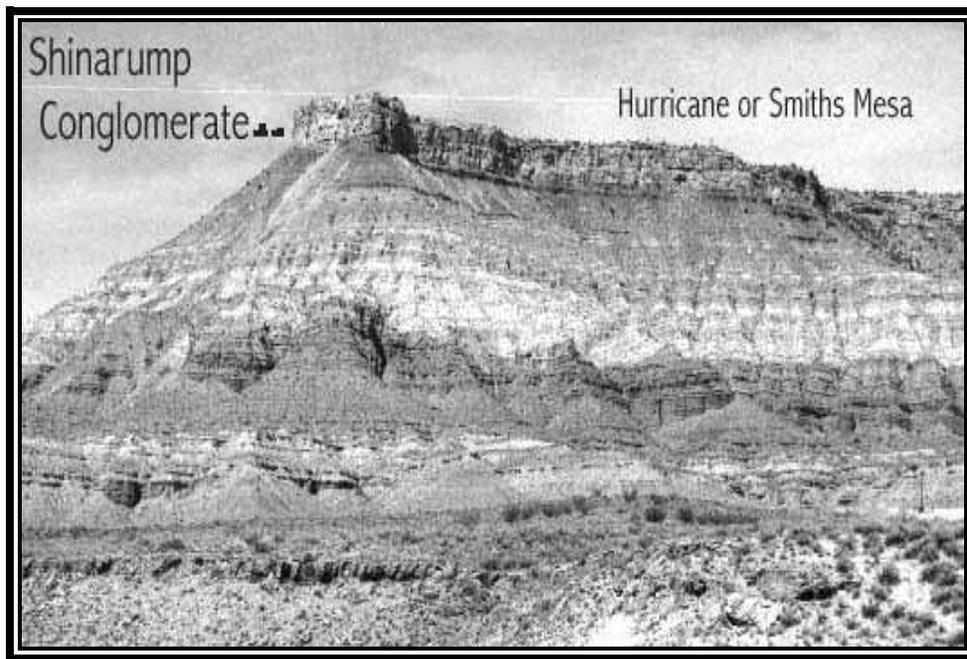
The mountains, hills and canyons one now sees are products of the Cenozoic Era. Cenozoic rocks are abundant locally, all of them igneous: the lava flows and cinder cones in the area, and the granite (actually, porphyry) rock of which Pine Valley Mountain is formed.

No accessible metamorphic rocks exist here, other than diamonds in jewelry. The inner gorge of the Grand Canyon is the closest spot where metamorphic rock can be easily observed.

### DRAMATIC ROCK STRATA

- (1) Kiabab Limestone. (Paleozoic)
- (2) Shinarump Conglomerate. (Mesozoic)
- (3) Navaho Sandstone. (Mesozoic)

Three rock layers are particularly noteworthy (1) Kiabab Limestone of the Hurricane Hill, the repository of many ancient fossils. (2) The Shinarump sandstone or conglomerate, depending on the locality is the hard top layer above Quail Creek Reservoir, the top layer of Hurricane Mesa, Little Creek Mesa, et cetera; it shows up at the top of the Monument Valley "monuments", and it underlies Petrified Forest National Park. Thousands of tons of petrified wood have been hauled away from the top of the Shinarump, but many pieces remain. The Shinarump was also one of the major sources of Uranium ore. (3) Navaho Sandstone. A huge area, of which we have a tiny part, was once a howling white sand desert. Later it was submerged; chemicals trickled down through, coloring much of it and cementing the sand particles together to form rock. Navaho Sandstone makes up the Valley of Fire in Nevada; it forms interesting shapes to the west of the Freeway north of the Hurricane turn-off; driving past the Industrial Park, one sees it down across the river; it forms the rounded white cliffs around Boulder, Utah; the Rainbow Natural Bridge is carved from it; The Buckskin Canyon cuts through it and it comprises most of Zion's cliffs.



## Landforms

### The Hurricane Hill.

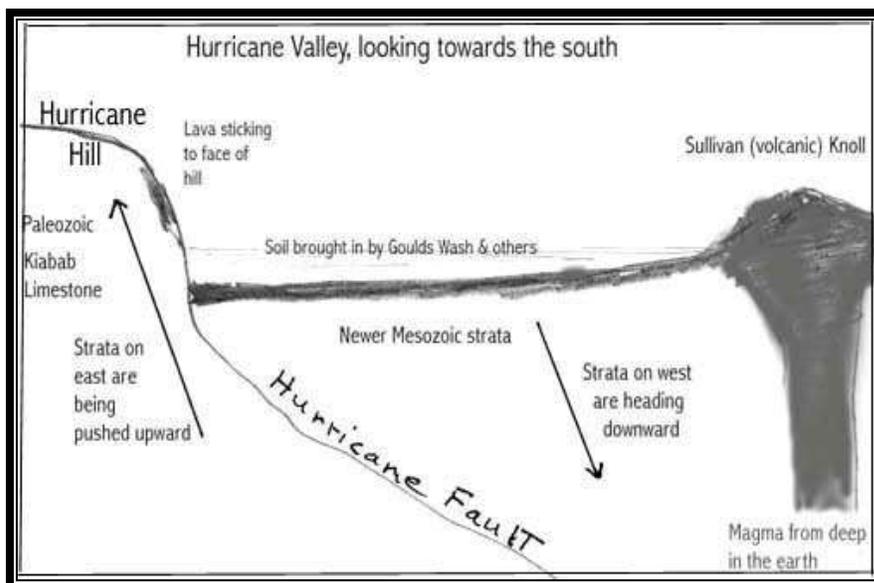
The Hurricane Hill represents the Hurricane Fault although the fault line is not necessarily at the base of the hill. The fault is approximately 200 miles long; the north end starts north of Cedar City while the Colorado River marks its approximate southern terminus. Vertical displacement is as much as 9,000 feet. Were it not for erosion, we would be looking at cliff-face over a mile and a half high; every layer of rock that makes up Zion and Bryce Canyons would be clearly on view. Without erosion, there would be no Zion or Bryce, of course.

### Zion Canyon.

The canyons of Zion as well as the canyon formed where the Virgin River emerges from the hill owe their precipitous walls to the fact that the Colorado Plateaus tilt upwards toward the west. As the uplifting took place, the river cut rapidly downward instead of laterally, creating deep canyons rather than broad valleys. Had the strata tilted downward to the west, Zion would just be somebody's cattle ranch.

### Lava flows and cinder cones.

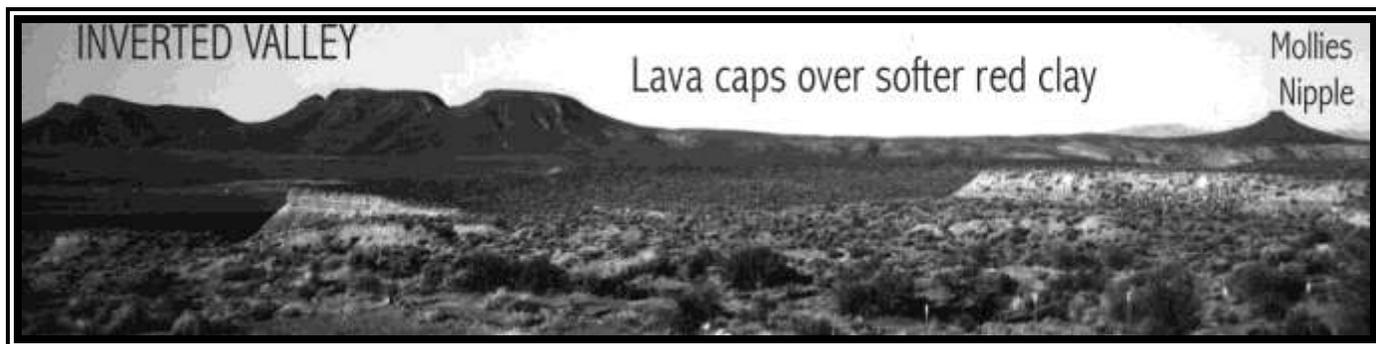
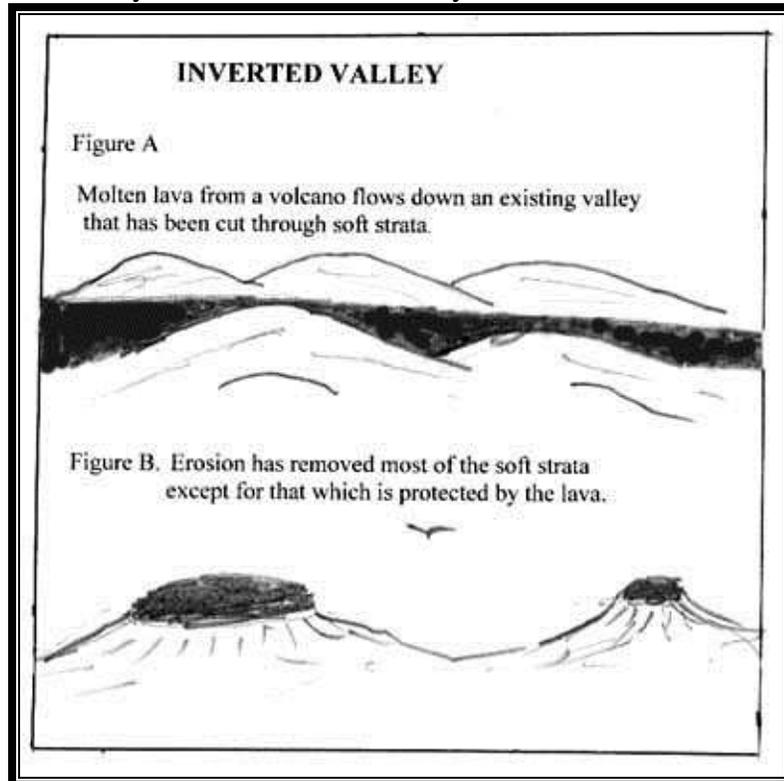
The lava one sees along the Hurricane Hill is not part of the strata; it's just stuck on there, so to speak. If Hurricane's soil were removed, we would see that the same lava underlies most of the valley. The cinder cones, or knolls, are a few thousand years old; some of the cones near Veyo are just a few hundred years old.



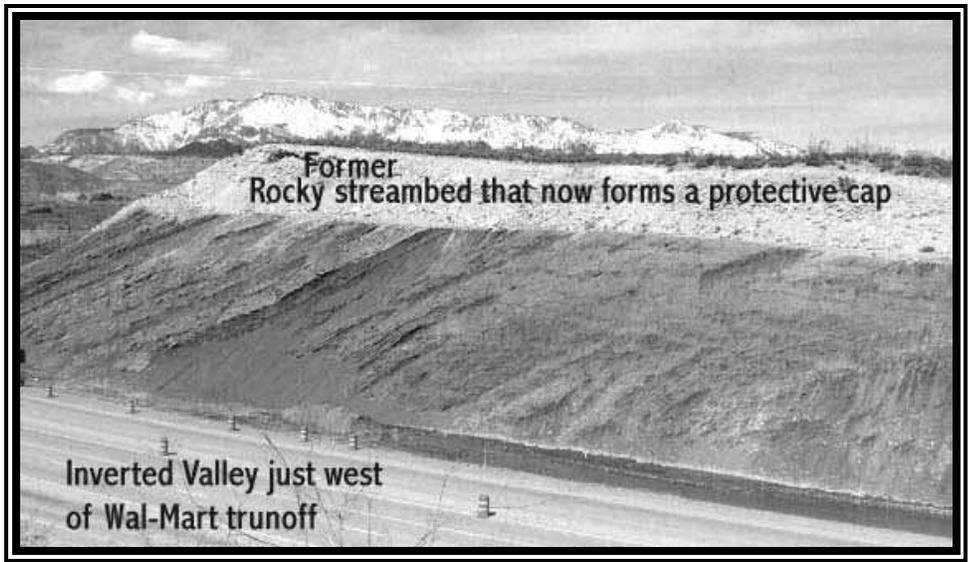
### Inverted Valleys

Molly's Nipple appears to be a cinder cone; it is not. It and the buttes lying to the south of it constitute the remnant of what is known as an "inverted valley". Before faulting took place that gives the Hurricane Hill its present form, a north-south valley existed over

what are now the buttes. A volcanic eruption to the south poured lava down the valley and as the lava cooled, a hard protective layer was formed. Eventually, the surrounding rock and soil eroded away leaving the lava cap-rocks protecting the softer material underneath. St. George is flanked by two such inverted valleys.

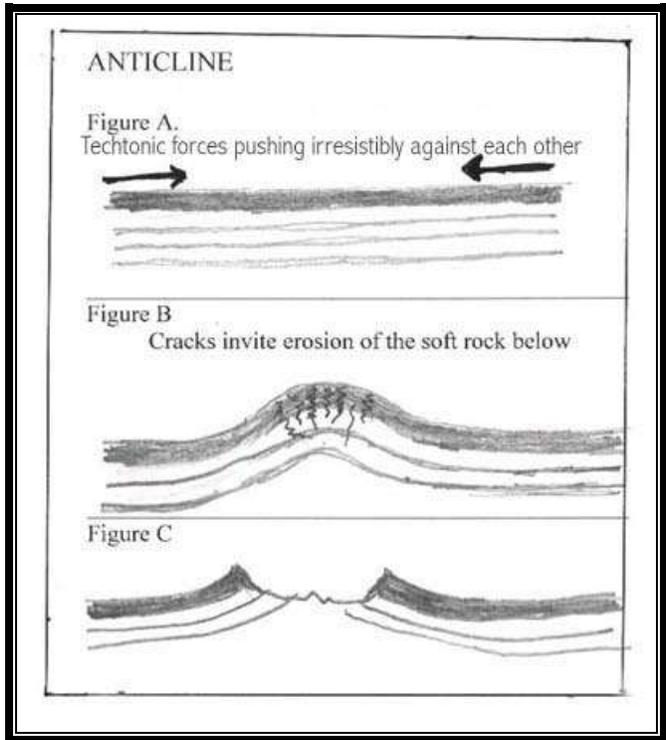


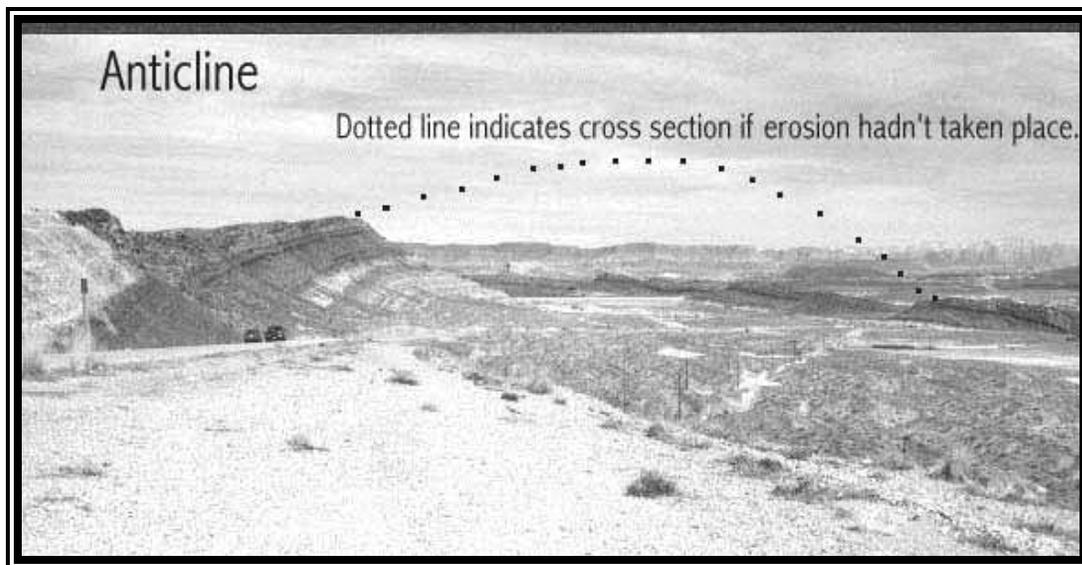
A somewhat different inverted valley can be seen just west of the Wal-Mart turnoff; highway 9 cuts through it. At the top of the cut can be seen large smooth boulders that once comprised the bottom of a stream bed and that now protect the softer material underneath.



Anticline

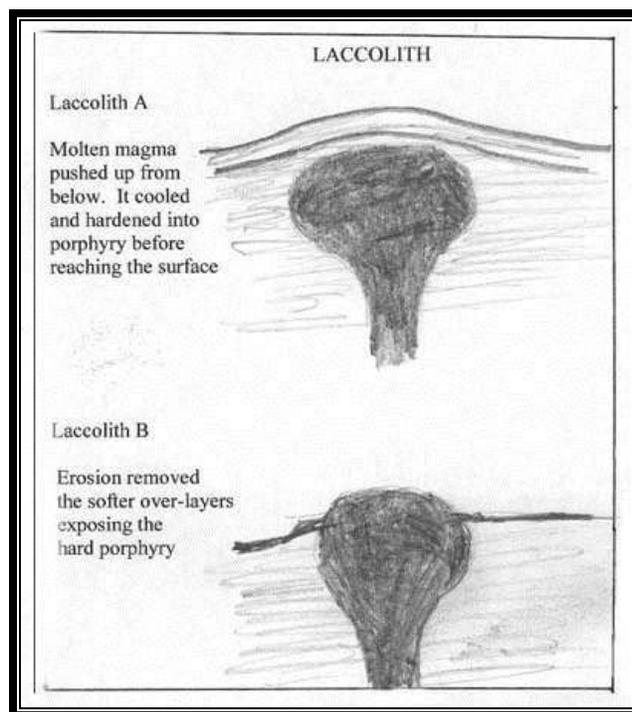
Quail Lake occupies a hollowed out anticline. The anticline was formed by enormous lateral forces pushing at each other causing a fold to occur in the earth's strata. Since soil and rock are brittle and inflexible, the top of the anticline would have been extensively cracked and broken making it vulnerable to weathering. Erosion rather quickly cut away the top and the softer center leaving just the hard, Shinarump Formation, shoulders.





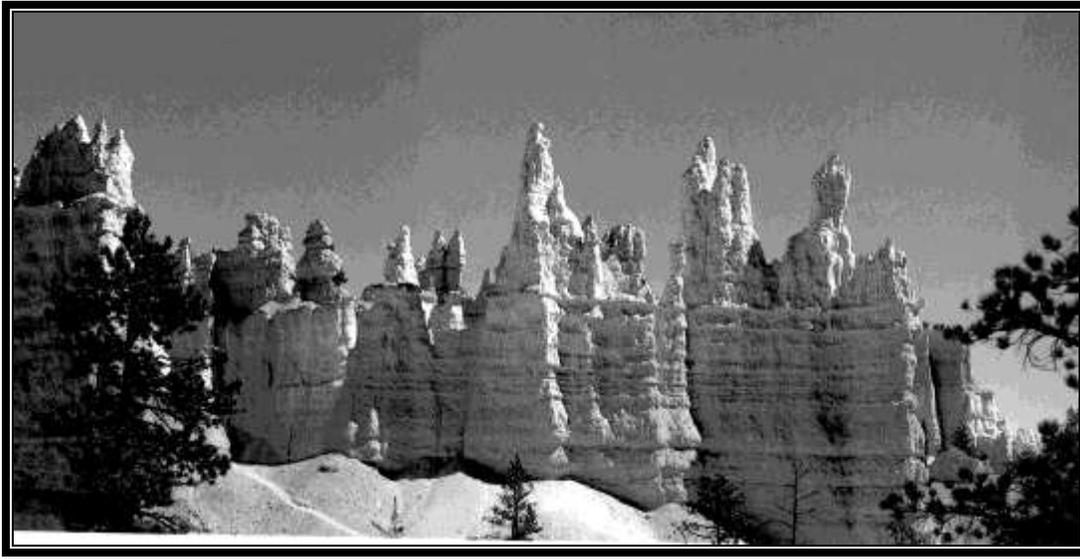
### Laccolith

Pine Valley Mountain to the northwest is geologically a Laccolith. It owes its existence to hot magma that pushed up from the earth's mantle but that did not quite reach the surface. Had it broken through the surface, it would have cooled quickly into lava. Instead, it remained below ground and cooled slowly into granite. Much later, the area was uplifted; erosion then peeled away the covering material. The result is the porphyry (It's almost the same as granite) mountain we see today.



## **Geologic Formations somewhat further a field.**

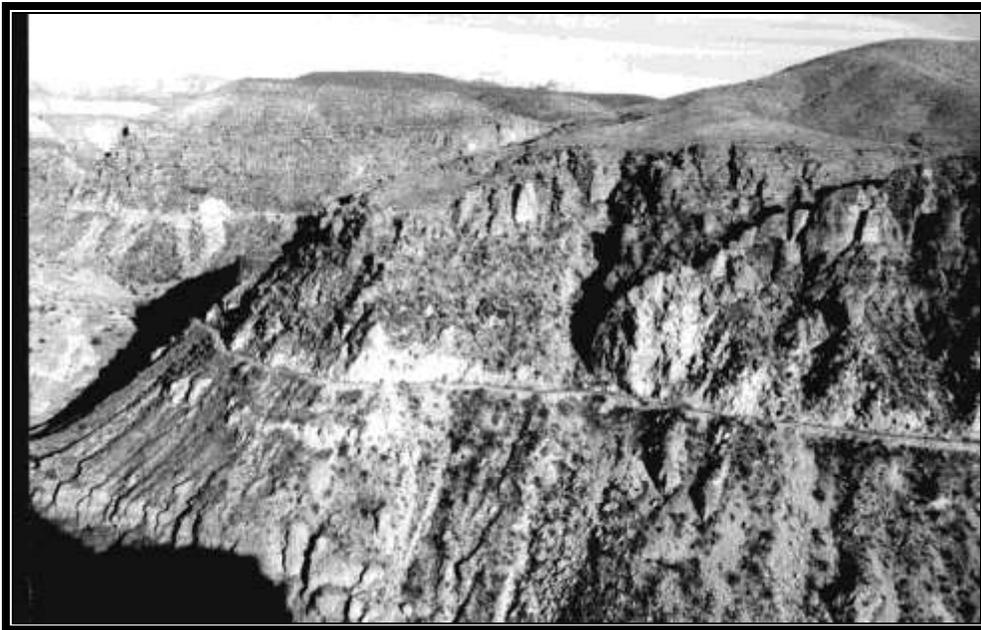
The hoodoos of Bryce Canyon were carved from soft Cenozoic, or Recent, Limestone. The naturally light gray rock was colorfully dyed by the infusion of mineral bearing moisture that at some point soaked down through it.



## **The Hurricane Canal**

Hurricane came into existence about 1905 being born of the water brought in by a canal, the construction of which required heroic efforts of a small group of near-desperate men and women. The site of the new town, the Hurricane Bench, as it was known at the time, offered plenty of land but the possibility of bringing water to it had been studied and declared to be unfeasible. Running a ditch over the top of the Unikaret Plateau then dropping it down over the fault was impossible because the plateau tilts upward to the west. Hanging a canal along the side of the frightfully unstable river canyon looked like an insane proposition, and almost was. The LaVerkin canal had been completed in 1891 by a private stock company and its apparent success (It turned out to have far more problems than were first recognized) may have helped prompt a new study by John Steele and James Jepson the fall of 1893. They correctly determined that a canal that began at the highest feasible point along the canyon would convey water to at least 2,000 acres of good land. A group of men from Toquerville, Rockville, Virgin, and Springdale formed a canal company and went right to work. Shares were issued with a limit of twenty shares per person, each share being good for one acre of land. Winter was coming on, the crops were in; it was the ideal time to dig a canal. From the first year on, the work was done as much as possible during cold weather when they were otherwise idle. Excavating equipment consisted of picks, shovels and wheelbarrows; it was all handwork. By the end of the second year, a dugway was made that enabled wagons to bring food and supplies in and the men no longer had to bring it all on their backs. The project's cost was estimated at \$53,000.00, assuming labor costs at twenty-five cents an

hour. Canal work was contracted with each contract covering four rods of channel. The contractor was credited fifteen cents per yard for dirt excavation, seventy-five cents for loose rock and gravel and a dollar twenty-five for solid rock. Lacking surveying equipment, they improvised. When a section of canal was dug, the correct gradient was usually determined by allowing water to run along it. A practiced eye could tell when the flow was exactly correct. The rock through which they were digging is designated as Kiabab limestone; actually much of it consists of gypsum and other related, easily dissolved minerals. Making the canal watertight proved to be a nightmarish task for builders of both the Hurricane and the LaVerkin canals. You could have a channel that appeared good for a hundred years, but turn the water in and a few hours later the entire stream might be escaping into the bowels of the earth, or having eaten through the bank, be cascading back into the river. Bagasse left over from sorghum molasses production and cotton lint were mixed with clay to make a channel lining. Alf Hall came up with a far more durable material: juniper bark. A bark and clay lining prevented many ruptures that would have otherwise taken place. Unfortunately, it was far from permanent. Concrete seems an obvious solution, but even though Portland cement had been invented fifty years previously, it was barely known in Southern Utah, and if it had been available, its cost would have been prohibitive.



The reader should view the canal from one of various observation points and muse on the toil that went into it. Notice the many rock shelves that support sections of the canal. Consider that the rocks were carried up from the riverbed by human muscle. Imagine having recently completed such a structure and that the water has cut its way through the bank and ripped the whole thing away; it all must be done over. You can feel for yourself the frustration and discouragement that drove away many of the original backers. At the beginning of construction, they thought it would take four years; by the end of seven or eight, only a few diehards were left. Desperate for cash with which to purchase supplies, in January 1902 they sent James Jepson to LDS headquarters to sell the Church \$5,000.00 worth of stock. The Church was barely solvent at the time but the Presidency did make the purchase. Now the workers could buy dynamite needed for

completing the twelve tunnels along the canal and now their morale was restored. By 1905 the canal was finished and the work of constantly repairing it could commence, a task that ended about 1985 when the Quail Creek Project began replacing it. Alf Hall and the others had invested twelve years of their lives in the canal; they had endured miserably cold weather; they'd spent weeks at a time living in primitive makeshift shanties; they had rebuilt canal-bed after countless rockslides or washouts tore chunks of it away; they'd spent lonely days and nights wrestling with grim despair when all seemed lost and all their years of work appeared headed for naught. They literally loved the canal for the promises it brought; they hated it for the years of capricious demands it made; they feared for it, knowing how easily it could rupture and how precariously it clung to the cliffside. The canal's welfare was a matter of passionate concern to the men and women of that generation. The shared monumental struggle of building the Hurricane canal gave its residents a sense of community and a built-in heritage. For years afterward during celebrations such as Peach Day or July Twenty Fourth, people gathered to hear peans to the men who had faced formidable odds in building the canal and who had triumphed.

### **PAH TEMPE HOT SPRINGS**

The Pah Tempe springs are the southernmost of approximately twenty-four similar springs in Utah that are associated with the Hurricane, the Wasatch and other faults. The LaVerkin springs are about 120 degrees Fahrenheit; some Utah hot springs are more than double that. The springs were long known to Indians, being a sacred and a healing sanctuary for them. The Dominguez-Escalante party (October, 1776) provide the first written account. After visiting the Indians' irrigated fields of calabash and maize along lower Ash Creek, they crossed the Virgin River where Ash Creek and LaVerkin Creek enter. Impressed by the Virgin's chemical content, they named it the Rio Sulfureo.

Thomas Judd, a founder of LaVerkin, the first "legal" owner, acquired them about 1889. (The LaVerkin irrigation canal was completed in 1891. No attempt to exploit the springs commercially was made at first, but they were frequently utilized by early settlers of the area. They were a real boon to builders of the Hurricane Canal both for soaking sore muscles at days end, and for frolicking when wives came to visit on weekends. An early use that persisted into the 1940's was for baptisms, the writer being baptized there April, 1935. A swimming pool was completed in 1918 by a company organized for that purpose. Bathing suit codes called for elastic in sleeves and legs that reached below elbows and knees, plus a skirt, for ladies; men's suits could be sleeveless, but legs were to fit snugly and reach below the knee. The pool was a popular attraction for individuals and for school and church groups. In 1924, a permanent house was built for the pool manager, and small bathing enclosures were built east of the pool. Minerals quickly encrusted the ditch that conveyed water from the springs to the pool, and the pool itself; cashless young people could earn admission to the pool by scraping off minerals. In recent years, the springs have attracted mostly older people with aching backs and limbs.

Disruption of flow has occurred at least three times: (1) a flood in 1920 silted them in; (2) during construction of the Quail Creek project; (3) the earthquake of 1992.

## HURRICANE, LAVERKIN HYDRO-ELECTRIC PLANT

The plant that was in operation from 1929 until 1983 utilized water diverted from the LaVerkin irrigation canal. The canal began about three miles upstream. Water first went into a settling pond that allowed silt to settle out. A sluice gate facilitated flushing the settling pond as necessary. Downstream from the settling pond, the canal clung to the Virgin River canyon wall, then went through an approximately quarter-mile tunnel before emerging out onto the LaVerkin bench. From this point, a pipe of about forty inches in diameter conducted water to the hydro-electric plant.

Washington County News files provide information about the plant's birth. The first item, dated February 16, 1928, relates that the Dixie Power Company was in the process of obtaining water rights from the LaVerkin Bench Canal Company for the purpose of producing hydro-electricity. An item of July 12, 1928 states that the Dixie Power Company was applying for a permit to build an 899 kilowatt capacity hydro-electric plant at an estimated cost of \$90,000.00. The laying of one thousand feet of forty-two inch wood pipe and the starting of concrete work above the tunnel made news December 12, 1928. April 12, 1929, the paper reported that operation of the plant had begun, that full capacity awaited minor adjustments, and that Fred Brooks, whose family was then living at the plant, would be in charge.

Changes took place over the years: the wood pipe was replaced with metal; power plant machinery was upgraded; the plant was finally semi-automated so that it became unnecessary for someone to live on the premises.

Output of the plant was about the same as the small generator at Hoover Dam that generates power for use at the dam. It was the largest of a network of four hydro-electric plants. If all four plants were down, the LaVerkin facility had to be started first. Electricity was generated when water under high pressure was fed over a Pelton wheel (patented in 1889 by American engineer, Lester Allen Pelton) which was connected to a generator. A Pelton wheel resembles an old fashioned water wheel rather than the turbines used at Hoover Dam. If no water was running over the wheel, but electricity was coming in from other sources, the generator would act as an electric motor. The Pelton wheel was designed to run within a specific RPM range; if allowed to run too fast, it could literally throw itself to pieces. When the generator was producing electricity, the resultant friction kept the Pelton wheel at a safe speed. If, however, the generator were turned off, the Pelton wheel would soon reach catastrophic speeds. To prevent this from happening, a shunt was designed to automatically drop down when the power went off and divert the water out into the river channel. Damage to the wheel often necessitated a welder crawling inside, assuming a most awkward position and making a weld that was precariously close to his body. Winston Stratton who was skilled, flexible and willing usually got this honor.

Water flow to the wheel was sometimes interrupted: leaks in the canal; obstructions in the pipe; or more silt than could be settled out at the settling pond were the most common problems. Sand abrasion would quickly wear out the wheel paddles. If the river was flooding, the settling pond might need draining three times a day, or in extreme conditions, shut down. The canal had to be constantly monitored for leaks.

Small leaks soon became cascades that if unchecked could rip out hundreds of yards of canal bank. When flow was being restored, water had to be slowly ushered into the pipe; if an air bubble were allowed to form the resulting pressure would rupture the pipe. Thunder showers were a double threat; if they happened upstream, they could load the river with silt; if they happened locally, they could send avalanches of rock and water down the canyon-side that would rip out whole sections of canal.

Kay McMullin was chief operator of the plant from 1958 until it closed in 1983. He ordinarily worked alone. Maintaining flow through the canal and through the pipe was his constant year-round concern. The canal bank was no more than six inches wide in many places; falling off the bank one way meant getting wet, falling the other meant landing on rocks ten to twenty feet below. Walking such a bank, even on a nice day, takes getting used to; Kay walked it at night and when he had to kick snow off to see where to step. Once he was making his way along the bank after an eight-inch snow fall. He slipped. His shovel flew out into the canyon. He dropped into the icy water. Fortunately, he had stashed emergency supplies at intervals along the canal. He retrieved some matches, got a fire going, and lived.

The plant met a sudden end in 1983. Kay returned from a vacation to find the Pelton wheel and other machinery in shambles. Lightning may have caused a power shut-off and the deflector plate may have failed to fall in place. A disgruntled ex-employee may have sabotaged it. The Pelton wheel had spun out of control to its doom. Rebuilding was economically unfeasible. The machinery and pipe were sold as scrap metal.

Sources: Mr. Kay McMullin; Washington County News files.

## **HURRICANE HILL ROAD AND CONVICT LABOR**

The road to the top of the Hurricane Hill was built in early 1915 with convict labor. State level support for the project came because the road was a key part of a highway to link Yellowstone National Park in the north with Grand Canyon National Park at the south. Alterations and improvements were made in the road from time to time; one major improvement was to move the road to the left after it leaves the look-off giving it a better gradient. The road was superseded and parts of it obliterated in the mid sixties when the current Highway 59 was completed.

The earliest reference to the use of convict labor in Washington County News files is from May 1911; convicts were to do roadwork in Davis County, then in Washington County. The first group was stationed at Middleton and did road work between St. George and Washington. They were described as a "jolly lot" who had many musical instruments such as guitars and mandolins. They were described in Washington County News reports as being lightly guarded, there being no evidence of chains mentioned. Edwin Slack spent considerable time with convicts stationed at Toquerville and saw no chains. It is possible that balls and chains were used in some individual situations, however. A "prisoner rock" with an attached chain in Toquerville was used in local law enforcement; it had no relation to the convicts used in road building. Two

escapes over the years and one rebellion were noted. One escapee was soon captured after unsuccessfully attacking a mail rider, the other was not so lucky. He wandered into the Bar Z ranch headquarters near Cane Beds. He asked for, and received aid from the ranch foreman, Sam Beal, who knowing nothing of the escape, allowed him to remain and help out. One day after returning to camp from Kanab, Sam gathered an armload of wood on his way into the bunkhouse; he was greeted by the business end of an old rifle of which the escapee had previously expressed considerable interest. He threw the wood at the armed man and ran to fetch a rifle he kept stashed as one or more bullets went zinging by him. Sam's command to drop the gun went unheeded so he fired, causing an arm wound but not deterring the convict. Sam's second shot sent the escapee to his reward minus some front teeth and the occipital region of his skull. Sam then left for Kanab to notify the police. Frank Lee was traveling to Moccasin that same day and as darkness approached he decided to seek shelter at the Bar Z cabin. His plans for a peaceful night's sleep were modified when he entered and saw the rather well drained corpse on the floor. He resumed his journey and eventually met the sheriff's party on their way to investigate the death. The body was buried just south of Anderson's Ranch, a gunnysack serving as a casket; the grave was moved a few rods to east when the present highway was built. In 1912 the News reported that Sam Beal had knocked a sheepman senseless with his revolver because sheep had gone through an open gate to get water owned by Sam's cattle bosses. The rebellion took place at the Anderson Ranch camp, cuisine being the issue. Seventeen of the rebels were hauled to the St. George jail to await being taken back to the Utah state prison. The men all repented, sought forgiveness, and returned to work. Edwin Slack was a teenager when convicts were stationed at a camp at the northwest corner of Toquerville. One convict, a professional boxer, would spar with Ed and the other boys. Many baseball games were played between the convicts and local teams. The locals reportedly dominated the series. Note. Toquerville had a larger population then than now. During World War I, twenty-nine of its young people served in the military! Some convicts developed friendships with townspeople and were invited into their homes. Weapon carrying guards could be a greater hazard than the convicts, as was the case at a Toquerville dance when a camp guard, a Mr. Norris, fortified with booze attempted to enter the dance hall with his gun strapped to his hip. Leon Slack, the doorman, invited the man to disarm before entering; he demurred and started to push his way in. Leon thoughtfully provided the man with two choices: "You can go out on your feet, or you can go out on your head." The guard chose the former and was out nursing his ego with the help of friends and more booze when Leon's younger brother, Edwin, whom he closely resembled, happened along on his way back from taking his date home. Ed's introduction to the assemblage consisted of a hard punch to the chest. Upon recovering his balance, Ed advanced on the man, who was now drawing his gun. Ed struck; his blow dislodged the gun, and he soon had the man on the ground giving him a severe beating. Then in a flush of youthful enthusiasm, he pitched the man into a narrow rock-lined ditch that ran along the street. Noting that the ditch didn't quite fit the fellow, Ed stomped him on in. Feeling no need for further social activities, young Slack picked up the gun and went home to bed. The next day he relinquished the state owned gun to a camp official.

As indicated, impetus for constructing the road came from a desire to have a highway connecting Yellowstone to the Grand Canyon. Citizens of Cedar City, Toquerville, and Hurricane formed the Grand Canyon Highway Association, David

Hirschi and J.W. Imlay serving terms as president. They successfully lobbied to bring the road through their communities rather than through Panguitch south to Kanab. Some convict labor was used on roads south of Panguitch, however. Convicts stationed at Anderson's Ranch during 1913 and 1914 apparently built roads that roughly parallel I-15. They built a road south along Ash Creek to Toquerville in the fall of 1914

The road to the top of the Hurricane Hill was built by about fifty convicts during January, February and March of 1915; as many as thirty teams of horses were used to pull wagons and fresnos. Exactly what manner of roadway existed previously is unknown but there is reason to believe that horses and even wagons could negotiate it. Local communities had to provide the \$35.00 per day required for feeding the horses. The road from the top of the hill to the Goulds shearing corral had already been built. (A telephone line was installed between Hurricane and the Goulds shearing corral in February of 1915. The shearing corral operated from 1910 through 1934) The camp was near the present Canal Commemorative Rock. Allen Humphries recalls as a child, watching the convicts in the evening from the safety of his Uncle Frank's neighboring home; they entertained themselves with music and dancing. He recalls a Black man who was an expert "step-dancer". After completing the Hurricane Hill road, the convicts moved on to finish the road over the Black Ridge. Although hardly any of the men had previous building experience, they became known for doing good work. Ether Hastings reports that a visiting civic leader from Salt Lake was being shown the partially completed road by Hurricane officials. He was so taken by the quality of construction, he exclaimed, "We need more of this kind of people!" Most convicts vastly preferred road building to prison life; it's quite possible that the experience helped at least some of them to lead normal lives on the outside. One of them, E.M. Mason, was reported by the News April 12, 1915 to have been released from prison and returning to Hurricane with the intention of setting up a blacksmith shop; his believed to have married a local girl.

The Hurricane Hill road has seen a few disasters and many near disasters during its forty years of use; the potential was there for many more. There are two sections of the road with particularly steep gradients, the upper end of the dugway being sixteen percent and a section, later abandoned, just above the "Lookoff" that is fourteen percent as a comparison, the current highway is eight percent at its steepest. Early vehicles were not always up to the challenge. Ford Model A trucks sometimes had to be driven up in reverse because otherwise their gravity-feed fuel systems couldn't function. It is unknown just how many fatalities occurred; one was Frank Isom Jr. He was bringing a wagonload of wood down the dugway when his brakes failed. The harness and singletree arrangement enables the horse to pull efficiently; there is no provision to utilize the horse in braking. Man and team died on the rocks below. The incidents related below have happier endings:

Hyrum Bradshaw and a neighbor were on their way out to get wood, each with his own team and wagon. When they reached the steepest part just beyond the look-off, they unhitched Hyrum's team so they could utilize both teams on one wagon. As they were pulling away, Hyrum looked back and saw that his wagon had somehow jumped its wheel blocks and was rolling down toward the sheer cliffs. He dashed to it, got on, pulled the brake rope, but its momentum caused it to slam into a large rock. Hyrum was

thrown off; his leg was broken and he was banged up generally, but neither he nor the wagon went over the main cliffs.



**All that remains of the old dugway. (Highway 59 to right)**

As a young man, Winferd Spendlove was driving a truck down through the draw loaded with wheat in sacks. Suddenly both brakes and gears were gone. He opened the door and was going to jump when he saw another vehicle coming towards him around a sharp bend. To avoid a crash, he steered the truck up on to the roadbank. Whereupon the truck turned over onto its back in a very thick cloud of dust; the grain cushioned the fall so that Winferd was barely hurt. He immediately crawled up out and by the time the dust settled enough to allow some visibility, he was standing on the truck's upturned undercarriage. The driver of the other vehicle, Heber Hirschi, who was expecting to find a mangled corpse, instead was astonished to see a young man standing there more like an angel from Heaven. Heber exclaimed, "Where the Hell did you come from?"

One use of the steep gradient was for sport. Screaming down the hill in a "soap box" cart was a real adventure. It is doubtful if races were ever held; the goal was simply to survive the trip. Although largely unused since 1965, much of the road remains, the upper end of the dugway serving as a Hurricane landmark. Gingerly driving the road now, it seems incredible that it handled two-way traffic including large trucks loaded with wheat, wool, or livestock.

#### Acknowledgments:

Interviews: Darwin Ballard, Lindon Bradshaw, Clark Campbell, Ether Hastings, Allen Humphries, Richard Lee, Edwin Slack(b. Feb., 1895), Winferd Spendlove, Dell Wood.

Other sources: Gleanings About The Goulds Shearing Corral, Alice Isom Stratton.

Washington County News files, Hurricane Family History Center.

## HURRICANE MESA ROCKET PROJECT (S.M.A.R.T.)

The "Supersonic Military Air Force Research Track" was built in the early 1950's mainly for testing aircraft ejection seats. It was operated for the Air Force by a private contractor with a crew of approximately one hundred technicians and workers until 1961. At that time operations were transferred to Edward's AFB, CA; private outfits ran some experiments after that. The main features were: (1) a 12,000 foot track; (2) re-usable rocket sleds; (3) precision instruments and high-speed cameras shooting at sixty frames per second for setting up and monitoring the tests; (4) payloads. Ejection seats were the main payload component; sometimes they contained dummies fitted with sensors, other times they may have held chimpanzees but that is at best a rumor. Humans also rode the sleds at Edward's to study effects of acceleration, but apparently none rode at the Hurricane Mesa track. It was built to accommodate rocket sled speeds at up to mach two, but the one test that was conducted at that speed ended disastrously. Most tests were done at or below 1400 feet per second, the speed of sound being roughly 1100 FPS. When the track was first completed, a two-inch rise was detected that was caused by moisture seeping into bentonite embedded in one of the rock layers. The rest of the track was raised to the same elevation by drilling holes down into the rock and pumping in a slurry under high pressure. Provision was made at the south end for braking the sled with water. A scoop mounted under the push sled reached down approximately twelve inches. A shallow trench ran between the tracks the length of the run. Water was impounded at the braking section by placing thin masonite dams every few yards that were easily penetrated by the scoop, each dam being an inch or so higher than the previous one. The scoop had "wings" that shunted the water out on either side of the sled and then directed it forward thus producing reverse thrust that effected a quicker stop.

The pictures below were taken with a high speed camera, one of several along the track. The shutters of all cameras opened simultaneously. The mockup shown was the generic model. A mockup might also consist of the actual front end of a particular fighter plane such as the F-105.



Speed was governed by the number of rockets used. Sixteen or more solid-fuel rockets could be fitted into the main racks and twelve or more smaller rockets could be attached to the sides. The "windows" are painted on to aid in determining the vehicle's center of gravity. The wedge shaped front helps hold the vehicle on the tracks.



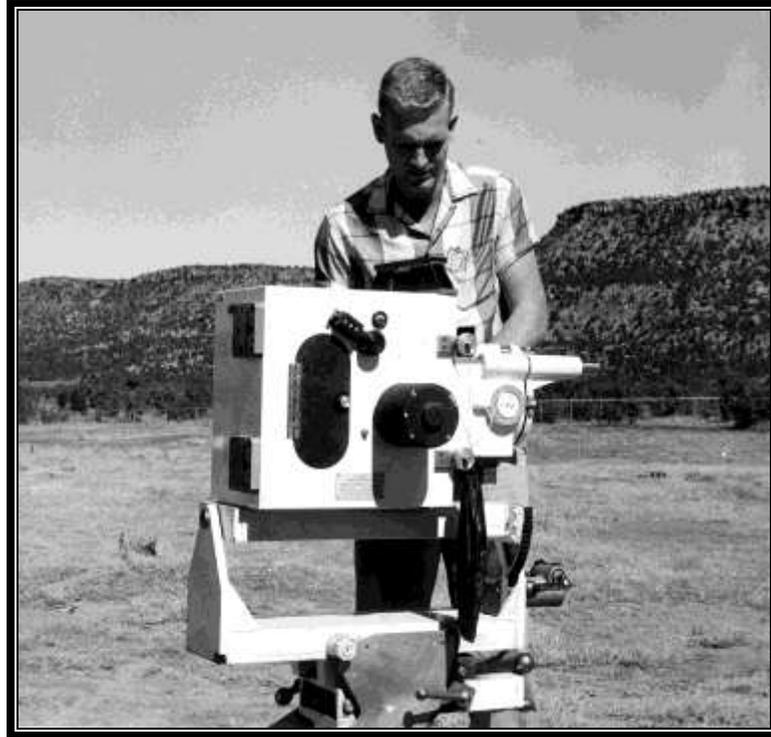
**(About ten frames later) The ejection seat and dummy are in the process of being thrust upward by an explosive force. The dummy's arm and head are partially visible. Dummies were fitted with multiple sensors that provided whatever data the particular test required**



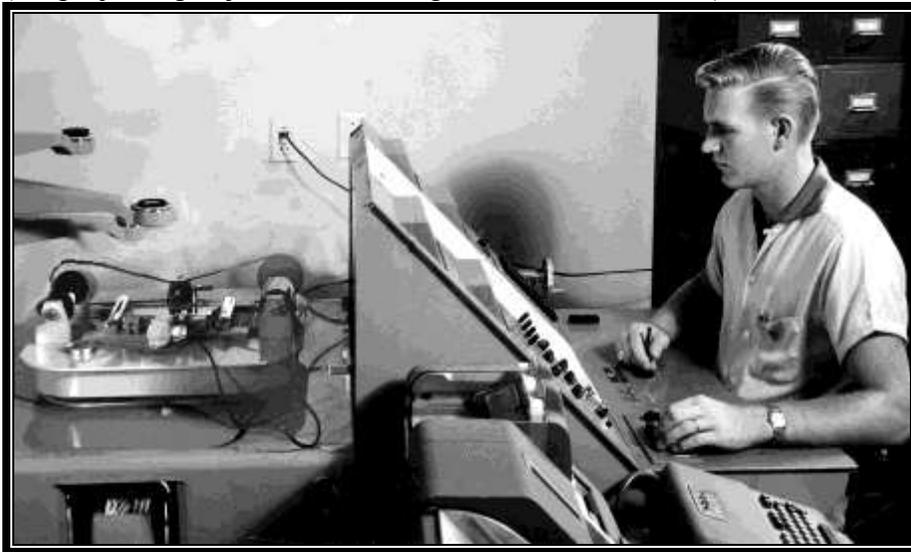
**Ejection seat and dummy are now airborne and water brakes will bring the sled to a stop.**

Tests might involve sending the payload off the Mesa's edge but more frequently it was shot upward to be retrieved on top of the Mesa. Occasionally rockets would be fired off to the south, having gained momentum by use of the rocket sled. Frequency of testing was determined by a test's complexity. Sometimes two tests a week were run, other times a month might be required to get one ready. Tests couldn't be run on cloudy days because of film-speed limitations at the time. Tests had various objectives over the years but a major goal early on was gain data concerning ejection seats for high-speed aircraft. Typical questions that needed answering were: How much ejection force was needed so that the pilot would not be struck by the aircraft's tail? How fast could a plane be flying until successful ejection became impossible? How low could the plane be flying and the pilot still be able to parachute safely to the ground? Of course, answers for one fighter plane didn't necessarily hold true for another. At first, test computations were run on an IBM 607 electronic calculator powered by vacuum tubes and bigger than a refrigerator. A brand new tool, the computer, was then in its infancy. Computers were installed at the test site in the late 1950's.

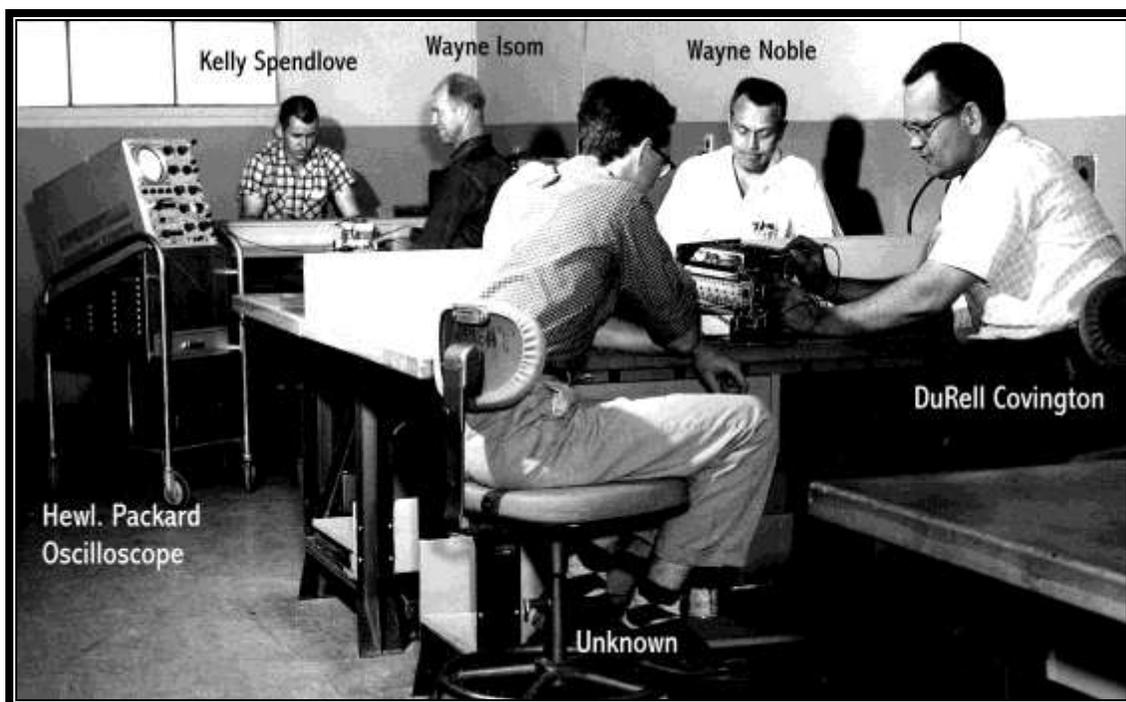
## The Camera



A Theodolite, or high speed camera is being set to record the ejection process. The lens is aimed to the right of the picture. It's at the center of camera.  
(the projecting object is something else; it's not the lens)



Film Reader. Antone Bringhurst

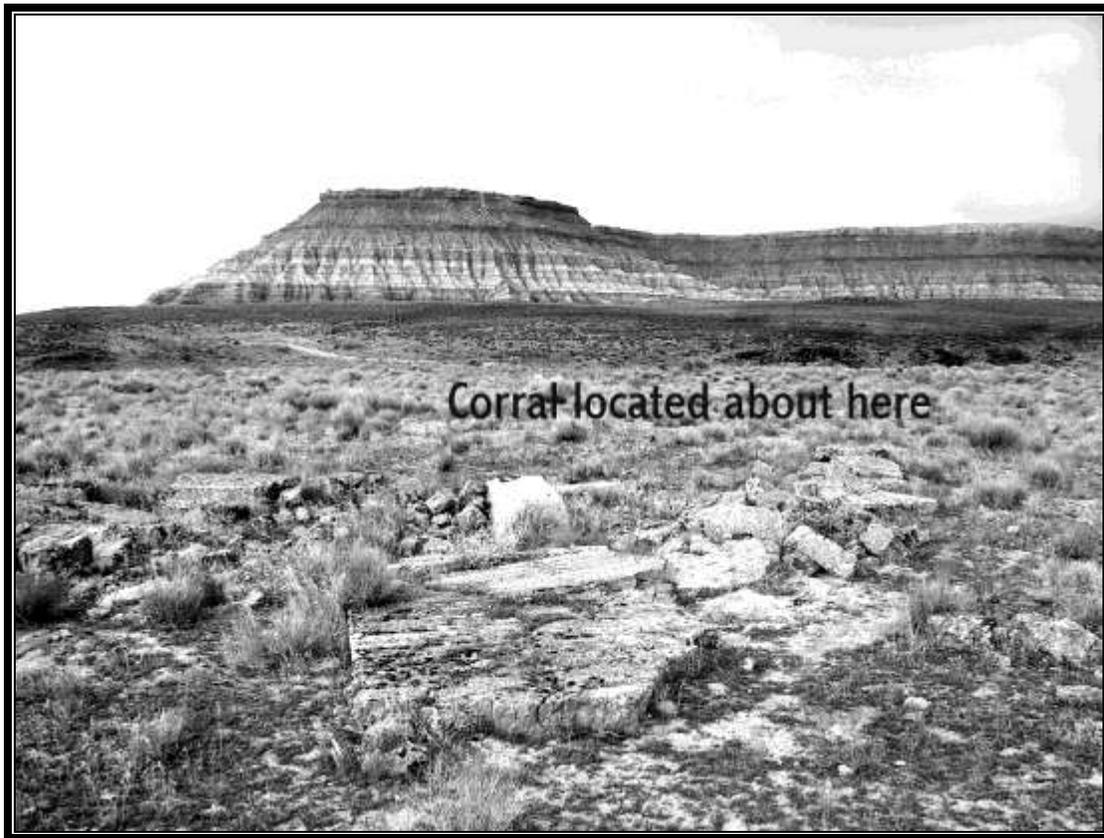


### Analyzing data derived from rocket sled tests.

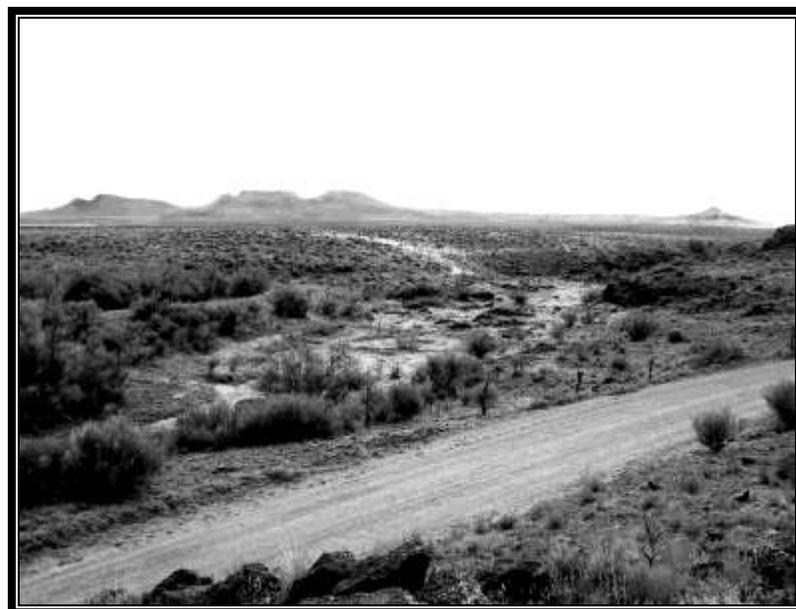
Danger was always present. Volatile propellants were used; unplanned explosions could occur anywhere along the track. One man was killed; others narrowly escaped death. Workers stayed at least two hundred yards away from the track during a firing. The facility remains ready for use, and closed to the public. In recent years tests that would have involved shooting chemicals off the Mesa have been thwarted by local communities and environmental groups. A building can be seen perched out over the east edge of the mesa. Its the whimsical creation of a private contractor who used the test facility after the Air Force was finished. It houses a restaurant; it does not contain, as one might wish, a bedroom in which late arriving visiting dignitaries could be assigned-- to awake the following morn finding an abyss where the world was supposed to be.

## GOULDS SHEARING CORRAL

Present visitors to the Goulds area must wonder why a sheep-shearing facility was located in such a place. Shearing the sheep and hauling the wool to market was no easy matter in the days before electrically powered portable shears and easy access to paved highways or to the railroad. The Goulds area offered some advantages as a central shearing operation. There were no local inhabitants to be annoyed by the noise and smell of innumerable sheep. Water was available. The warm climate meant that most years, at least, there was only a small danger of a frost killing freshly shorn sheep. It was reasonably accessible to both summer and winter ranges. A seasonal labor pool was available just a few miles away in Hurricane, LaVerkin, Virgin and neighboring villages. Although transportation was far from ideal, it was feasible to haul wool from Goulds to the railhead at Lund, Utah about sixty miles away. By 1910 a shearing corral had been established that at first employed shearers using hand shears. Along with corral facilities, it was necessary to build a bridge over the Virgin River just below the city of Virgin so that sheep could walk across it on their way to and from summer pasture. The same year a telephone line was strung from Hurricane to the shearing corral. Sometime early in the operation, gasoline engines began providing energy to operate mechanical shears. Now there was a system of rods, shafts, pulleys, belts, etc. in place that powered approximately eighteen shearing stations. Shearers worked partially suspended by wide leather belts passing under their stomachs. Fleeces went by conveyer belt to where expert trompers filled the huge wool sacks. Buyers inspected fleeces; wagons were loaded with twelve to fifteen bags and were ready to begin their slow journey to Lund. The shearing was done between March 20<sup>th</sup> and May 10<sup>th</sup> each spring. Owen Sanders who worked at the operation as a teenager recalled, "During the brief shearing season it was a place of furious dawn-to-dusk activity-- machinery roaring, sheep bleating, dogs barking, men yelling and everything covered with dust and with lanolin."



**Looking north. Remnants of small concrete building in foreground that housed the gasoline engine.**



**Looking west across Goulds channel, now dry. The corral was left center**

There were years when the Goulds operation was the largest of its kind in the world. There might be a million pounds of wool harvested from a hundred thousand sheep. By the early 1930's it had all come to an end. Goulds became as quiet during April as it was the rest of the year. There were a number of causes for its demise: the Taylor Grazing Act of 1934 curbed unrestricted use of the range; highways made it possible to easily haul wool to market from any location; portable equipment housed on a truck-bed made it possible to take the shearers to the herd; more efficient wool growing operations in countries such as Australia and New Zealand made local operations less competitive; the Great Depression caused the demand for wool to drastically drop.

Sources: Gleanings About The Goulds Shearing Corral, Alice Isom Stratton.

Interviews: Owen Sanders, Winferd Spendlove.

### **The BS Trail and Southern Utah Sheep Raising**

The BS trail goes up over the Hurricane Hill from near the south end of the city to where the Goulds shearing corral was located. Many thousands of sheep traversed it from early in the century until the 1930's when the sheep industry of Southern Utah and the Arizona strip died out. Because of the rather circular route that sheep traveled during their yearly migrations, they walked up the trail; they rarely descended it. Cattle are its current clients. The fifty or so head that now reluctantly use it during their circular yearly migration go down the trail, never up. The "BS" does not stand for Boy Scout. Sheep, not cattle, were the trail's chief users when it acquired its name. Just how bodily functions of an animal not usually associated with the trail could inspire such a name is a mystery. Nor does the trail feature shady alcoves that might invite its human users to tarry while they expound on various topics long after their stores of information are exhausted --- discourse that would qualify as "BS". Winferd Spendlove, who owns some of the land traversed by the trail and who has been acquainted with it almost the full ninety years of his life (June 2001) grew up knowing the trail's name. No one ever explained its derivation to him. Perhaps it gradually emerged from the expletive anyone who contemplated having to use it might utter.

There are actually two divisions of the trail that converge as they near the summit. A distinct trail that begins at 2045 South has received considerable maintenance in recent years and is traversed by cattle. The traditional BS Trail though, the trail that was trod by many thousands of sheep on their way to the Goulds shearing corral, is not readily identifiable as a trail at all. Rather, it's an area of perhaps fifty yards wide at the bottom as it heads up over the face of the hill with its base at 1910 South. Could we go back in time, we would see lenticular markings all the way up made by millions of hoof prints; the same markings that existed all over Southern Utah, Western Nevada and Northern Arizona. Except perhaps in a few protected spots, the prints are all gone now, the victims of erosion that they themselves helped foster.



**Figure 1** Looking up the trail from the west. Sheep would have spread out over much of the steep slope in the center. The marked trail is to the right. They converge at the top.

The initial reaction of a first-time visitor to the trail is, “I was given the wrong directions.” In fact, it is barely scaleable or hikeable. Why then, was it an important artery for many years and why didn’t they pick a trail with a more reasonable grade? We must review both the geologic features, and the history of sheep growing and sheep-shearing of the area. The escarpment that results from the Hurricane Fault presents a daunting obstacle to east-west travel over most of its one-hundred-fifty mile length. A breach in its ramparts just north of LaVerkin was utilized in 1859 to construct the Johnson Twist Road with its 13% grade. (The Virgin City water line now occupies the roadway as it climbs the hill a mile or so east of the Toquerville cemetery) South of the Virgin River or Timpowep Canyon to just beyond the Utah line where the Honeymoon Trail is found, however, there was just the BS trail that was suitable for driving large numbers of animals. South of the Honeymoon Trail, it’s another twelve to fourteen miles before the Navaho Trail road is reached. Further south, the Temple Trail came down over another breach in the barricade and the road from “Bundyville” to Mount Trumbull occupies still another. Back at Hurricane, Highway 59, and the old dugway road before it, appear to utilize a natural pathway of sorts but even though the BS Trail was far from ideal, it was the preferred path for driving sheep from the bench lake area to Goulds, it was free of other kinds of traffic and it was easy to find. The steep slope it occupies is easily identifiable from miles away. A couple of sheep personality traits are also relevant: Although sheep will readily cross streams when you don’t want them to, it is most difficult to get them to cross even a small stream such as the Virgin River at low water when it’s the herder’s idea. Because of this, the Virgin River was a serious barrier to sheep migration except where a bridge crossed it, the “sheep bridge” just west of Virgin City being a good example. On the other hand, sheep almost seem to enjoy climbing near-impossible grades such as the BS Trail imposes. Inducing them to descend the same grade though, is a tough task indeed and is easiest done by killing them first and tossing them down.



**Figure 2** Nearing the western end.



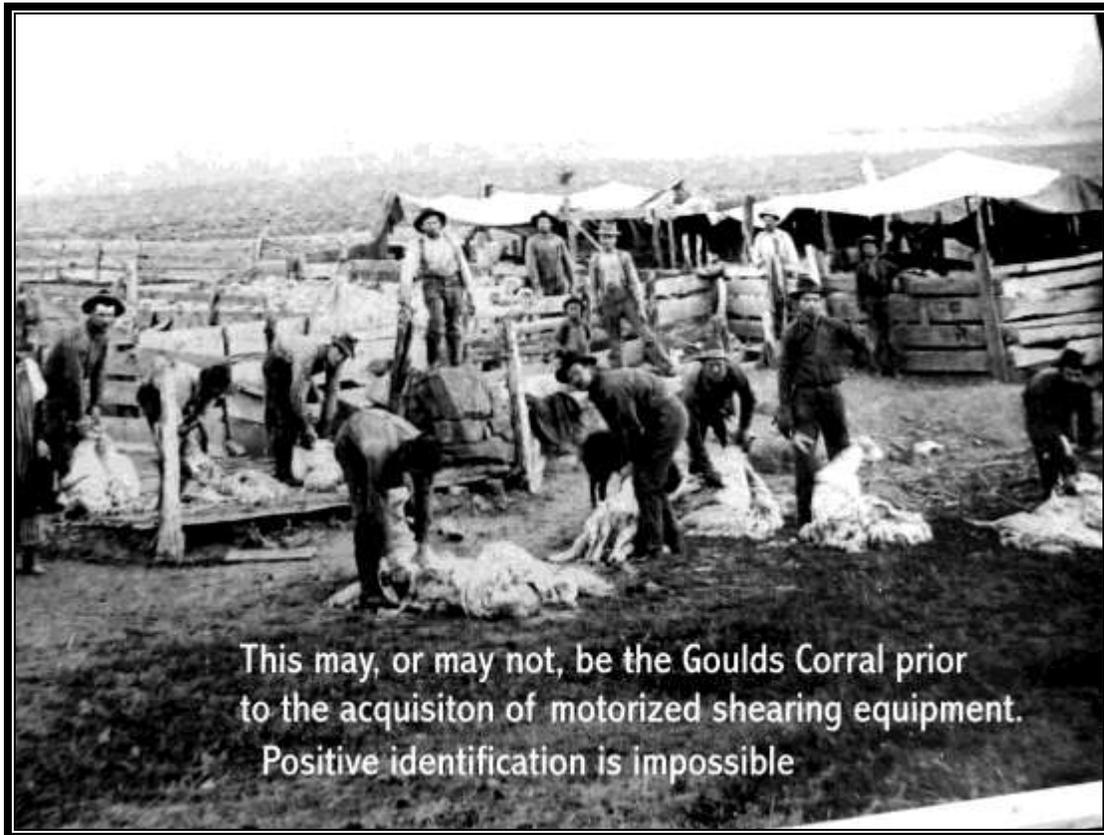
**Figure 3.** Looking back from the above picture to the east

Let us now review the sheep raising industry that existed in this area from the late 1800's until the 1930's. Many thousands of sheep, perhaps 50,000 at a time, competed

with cattle and wild mustangs across the rangeland of Southern Utah, Northern Arizona and Southwestern Nevada. They provided two sources of revenue. Wool that was sheared from mature animals in the spring, and lambs that were sold each fall for meat. Sheep raising is far more labor-intensive than, say, cattle raising mainly because a herder must be with the sheep at all times. The usual pay for a herder during the BS Trail's heyday was ninety dollars per month plus room and board. ("room" meant a sheep wagon; "board", mutton) Sheep raising was generally more lucrative than the cattle business and a number of families in the area were able to live relatively well during the period compared to those engaged in other pursuits. Some Hurricane names associated with sheep growing were Wilts Imlay, Will Sullivan, Johnny Spendlove, Homer and Alvin Englestead. There were also sheep men operating out of Glendale, Orderville, Kanab, St. George and Cedar City who utilized the shearing corral and, to a lesser extent, the BS Trail.

Lamb or mutton was frequently on the menu when a sheepman's family sat down to dinner. Shepherders sometimes dined on mutton three times a day. Spoilage wasn't a problem during cold months. At night when the temperature might drop to below freezing, a side of mutton could be hung by a hook at the side of the sheep wagon. During the day, the meat would be put into a heavy cloth sack and then rolled up into the bedroll for insulation against the day's warmth. A herder's camp-gear acquired some unusual odors. Probably a year-old weather (a male castrated when small) provided the best meat to the experienced pallet.

Typically, sheep made a one to two hundred mile journey every year between their summer and winter ranges taking advantage of feeding conditions at various elevations. Sheep can easily walk ten miles a day and get more than enough nourishment from grasses along the way. The BS Trail was important because of this annual pilgrimage. Oddly enough, some of the best feed for the year was found in early spring in the warm Arizona desert just north of Lake Mead (Pawcoon). Two rams or bucks per one hundred ewes were necessary for breeding purposes. The flocks enjoyed a coed status for just a few weeks each year, timed so that lambs would arrive, say, early in February. Shearing was done in the spring, usually after lambing had taken place. A lamb's carefree gamboling life was rudely interrupted soon after it was born. Its tail was nipped off or docked; indentations were cut into its ears that designated its owner and its sex. (It's difficult to tell which is which from most viewing angles) Males though, suffered the supreme indignity: an incision was made in the scrotum; the perpetrator clenched his teeth down over the testes then gave the victim's body a violent push forward to insure quick separation. At least some of the bite-sized morsels were usually saved for a dinner of "mountain oysters". The lack of range restrictions prior to the Taylor Grazing Act of 1934 made it possible to take one's animals anywhere on public lands where water was available and left the door open for hostilities to erupt.



**Figure 4**



**Figure 7. Crushed syrup can from that era.**

**A swiveling spout is aimed at the thumb.**

During the twenty-five years or so of the Goulds shearing operation, the BS Trail was important to many sheepmen such as Johnny Spendlove who owned or controlled the hillside that the trail occupied. No other sheepmen were charged for using the trail; it was there for all. Nor was the trail utilized by more than a large fraction of the sheep that came to the Goulds corral each year. Some were driven from Long Valley and the Kanab area along what is now highway 59; others were driven along the top of the Hurricane Hill from far to the south. Johnny, a Hurricane farmer and rancher, who was one of the main local sheep owners provides a useful example of someone who utilized the trail during its heyday. As we shall see, the trail was used only once a year or so, but its value was great indeed during the times that it was needed. Johnny's home was in Hurricane and he owned farmland and dry pasturage to the south, extending to what was then known as "Bench Lake". Frog Hollow Wash runoff that used to feed the lake has since been diverted and the Bench Lake area is now irrigated and under cultivation. He owned extensive acreage on Upper Kolob and he had grazing rights on the Unikaret Plateau north of Mount Trumbull. What mainly gave him grazing rights is that he had a reservoir dug about ten miles north of the mountain; without a dependable source of drinking water, there was no point in having any other kind of "rights". When the herd was feeding in the vicinity of the reservoir, it was the sole source of water for man and beast. The herder dipped his drinking water from it and if he wanted to take a bath, he looked to it again. As time went on between rains or snow and the sheep had frequently waded in, it took considerable courage for a man to take a hearty drink. Since it was the winter range, snow banks could often be tapped as a source of drinking water. When more snow fell than could be negotiated by the sheep, the herder cut a juniper tree, hitched his team to it and pulled it around through the sagebrush. The sheep could now follow along and munch on tender sagebrush shoots. Willis Hall left an account of how he and his employer, Ernest Langston, cut juniper branches for sheep to munch on during the bad winter of 1936-1937. It kept them alive until new green grass and shrubbery shoots appeared.

Johnny kept a base herd of about 4,000 ewes and about eighty rams, making him one of the larger operators in the area. As indicated, north of Mount Trumbull was the winter range for his sheep. By late winter, the herd was moved westward toward Pawcoon, Arizona. Spring comes at least a month earlier there than in Hurricane and highly nutritious grasses were often abundant during February that enabled ewes to give birth to healthy lambs. Typically, they cropped and nibbled their way back to the Hurricane Bench for the birthing process. Johnny attempted to have covered delivery enclosures available for each ewe that was ready to go in labor. It was a busy time for all hands. During the day, the ewes were inspected to identify those that were about to deliver, and move them into the enclosures. The emerging lamb might need an extra pull in order to escape its dark prison. Occasionally, there would be a breach delivery and then someone had to reach way up in there and re-position the misdirected infant. Afterwards it was essential to monitor the mother-child bond. A ewe might disown her hapless child and refuse to let it suckle. When that happened, she was restrained so that the lamb could get a few good swigs. As soon as the mother's unique smell had been acquired by drinking her milk, the ewe was more than happy to assume her maternal duties. The same was true with orphans. Once a surrogate mother who had been forced to be generous could identify her own precious odor, the lamb was family. One lamb is

adequate for most ewes, but some have twins. Under ideal conditions a 110% lamb crop survived. If the ewes were still out on the open range when lambing started, you were lucky to have an 80% survival rate. No rest period came after lambing was complete; it was now time to inflict the painful deeds on the unsuspecting little fellows that were described earlier. By now Johnny would be waiting for word from the corral for his animals' turn at shearing. Usually twenty-four hours prior, the trek to the Gould's corral would be made and now the one time each year that he utilized the BS Trail had arrived. It made a one-day trek from the Hurricane Bench to Gould's feasible, most important when feed and water along the way were scarce to nonexistent. Assuming the shearing machinery functioned well, all his sheep could be sheared in one day. The wool would be loaded on wagons for the trip to Lund and the sheep would be ready to strike out for Kolob or sometimes Smith's Mesa for a summer-long picnic. Sheepmen anxiously watched the heavens for weather signs the next couple of weeks after the shearing. Shorn of their winter coats, the sheep could die by the score if the temperature dipped below freezing. The foregoing sequence of birthing, shearing, etc. was not rigidly adhered to; sometimes the ewes didn't lamb until after they had been sheared and were on Smiths. The end of summer was partition time for the lambs. Enough female lambs would be kept to replace aging ewes; the rest, male and female, were sent to market. The livestock business is not for the sentimental.

So many things can go wrong with the sheep business that it's a wonder sheep men enjoyed some profitable years. Drought can dry up reservoirs and deprive sheep of forage. Freezing weather and heavy snow can prevent animals from finding food. A quick freeze at lambing time or just after shearing can decimate a herd. Wool and mutton prices can go so low that the operation becomes unprofitable. In fact, a steep drop in prices at the beginning of the Depression forced Johnny to abandon sheep raising. Sheep were not popular with cattlemen in the past and various conflicts occurred over the years. Every year, for example, some St. George Cattlemen would sue to have Johnny's reservoir drained. Every year he won the right to keep it but he had to go to Kingman AZ to appear in court and he had to hire a lawyer each time. Their strategy apparently was to "bleed him to death" financially through attrition. A more dramatic effort was launched by local cattlemen at the shearing corral but not at Johnny personally. A small group of cattlemen paid Willis Hall who was about nineteen years old at the time ten dollars to torch the Goulds corral and facilities. Because Willis needed an escape route where he wouldn't be seen, the BS Trail experienced it's most dramatic and ironic moment. The route that had helped make sheep growing feasible was now used to make destroying the shearing facility feasible. A further ironic note is that, both before and after his brief stint as an arsonist, Willis spent considerable time herding sheep. His father, who was one of the perpetrators, loaned Willis his best horse. Riding nonchalantly to the corral in the late afternoon and satisfied that no one had seen him, he tied the horse off a hundred yards or so to the west and waited until dark. After placing plenty of dry tinder at strategic points, he rushed to and fro with a firebrand and quickly had an inferno raging. Then racing back to his horse he sped off on the trail that he knew so well. How he induced his mount to go down the precipitous segment of the trail in the dark is a mystery but he succeeded with no damage to either man or beast. Arson was immediately assumed and Willis was interviewed as a prime suspect. Not that it mattered. Willis was a master yarn spinner and storyteller. Deftly fielding the sheriff's interrogation the next day required a mere fraction of Willis's mental reserves. It's

unknown if his bonfire completely ended all shearing at the corral but it was basically the “coup de grace.” The corral was already consigned to history by the larger factors discussed previously.

Cattle, as mentioned earlier, are no strangers to the trail. Merrill Hall, an early Hurricane settler owned irrigated farmland out on the bench west of the trailhead. He regularly drove his cattle up and down the trail when moving them to their summer or winter-feeding areas. In recent years, his nephew, Milton Hall, has also been utilizing it in a somewhat similar manner. Milton and his associates run fifty or sixty head out on top of the hill during winter and spring. Abiding by BLM regulations, they drive them down over the BS trail prior to May first and feed them for a month or so at their Hurricane Bench farm. Next they haul the cattle by truck to the Buckhorn Flats north of Parowan and to the Panguitch area for the summer. When fall comes, they truck them back to the winter range. Obviously, we have a reversal of the pattern that existed with sheep. Sheep went up over the trail each spring; cattle descend it. Cattle are reasonably obedient but they tend to draw the line at plunging down over such a precipitous trail. Once having done so without breaking anything, they are somewhat more amenable. On the first such foray, Milton prudently assembled a sizeable group of wranglers. By keeping most of the animals on a holding pattern at the top, they were able to induce two or three at a time to take the plunge until they finally had them all down. After that, the cattle required less coaxing.

The BS Trail has been officially named and sanctioned by the BLM.



Figure 8. Winfred Spendlove looks up at the trail from his home in Angell Heights Subdivision

## CABLE MOUNTAIN

Settlers along the Virgin River soon recognized the need for a quick efficient way to bring lumber from the nearby plateaus. It could take nearly a week to bring a wagon load of lumber on existing roads. The lower Zion canyon was utilized for farming as soon as settlers reached the area. The upper canyon, where the Lodge is, was not accessible by wagon until about 1865 when a road was built. After that, farms occupied all the canyon floor; the Zion Lodge sits on some pioneer's corn patch. The road cost one man his life: George Ayers sat under a large rock that was in the process of being moved while he rolled a cigarette; the rock picked that moment to roll on further and George was crushed to death.

Early settlers selected the name "Zion". Brigham Young visited and declared it to be "Not Zion". The new name briefly held sway, but the "not" was gradually dropped. For some years, two or three families lived in the canyon; by 1874, however, they had all moved out. In 1863 Brigham Young prophesied that a cable would sometime bring lumber down over the (Not) Zion ledges. Many of his listeners, even though they wished it could be true, privately thought that Brother Brigham had been out in the sun too long. A light cable was installed at the head of Shunsburg Canyon in the early 1870's that enabled mail be exchanged between St. George and Kanab. It breached a 1,500 foot cliff as opposed to the 2,500 foot high cliff at Cable Mountain, but it provided impetus for further development of the idea.

Young David Flanagan, who by 1900 had thoroughly explored the entire Zion region, tried to interest others in a cable project. Attracting no partners, he purchased 50,000 feet of wire and began experimenting with pulleys, windlasses, et cetera. Choosing Cable Mountain because vehicles can be driven out to the edge and because its precipitous drop to the canyon floor, he had a workable system developed by 1905. Realizing that existing sawmills were not going to support or even cooperate with him, he set up his own sawmill in 1904. By Christmas of 1906, over 200,000 feet of lumber had been lowered down the cable. All it lacked was profitability. New owners replaced the wire with twisted rope; they built a shingle mill at the corner of the Great White Throne to more efficiently utilize the cable's hauling capability.

Quinby Stewart deserves fame as the first cable passenger. He was enticed to take the ride by an offer of watermelon that awaited him at the bottom. Frank Petty who operated the machinery began utilizing the cable for getting to and from work every day. His three hundred pounds made the dizzying fear of riding the cable a small price to pay when compared to alternatives such as hiking up and down the trail. Deaths occurred in conjunction with the cable, although no one died riding it. Two youths were killed by lightning while standing under the machinery at the top. At least two who had come to observe the operation were killed at the bottom by falling lumber et cetera.

Probably no owner more than broke even with the cable operation; by 1910, congress was showing interest in making Zion a national park. The business quietly folded.



Excerpts from David Flanagan's book, The Outstanding Wonder of Zion Park, 1926.

In the year 1900, I bought about fifty thousand feet of small wire, part #13 and part #14 with which I hoped to make a demonstration sufficient to interest others to invest in the project. A full bail of more than six thousand feet and weighing more than one hundred pounds was then carried to the top of Cable Mountain. On the first successful attempt to lower the wire, it became entangled in a pine tree one hundred feet or more down the face of the cliff, but the limb that held it was finally cut away with a Winchester rifle. Finally, eight wires were suspended from the top of the mountain to the floor of the canyon, the distance being about three thousand feet.

The wires were arranged on pulleys and drums at top and bottom, five-ply on one side, three-ply on the other, the five-ply for carrying the load, the three-ply for guiding the load onto the canyon floor. It was late in the fall, seven months after starting, before everything was ready for the test. A load was put on but the machinery would not start. I had depended upon the power of gravitation to pull a load down, with a lighter load coming up on the other side. When the machinery balked, we took hold of the wire and helped to start it. We oiled the machinery and made adjustments but it would not run on its own power and required the efforts of seven men for a full half-day to run the load about halfway through. Darkness fell and a cold rain was falling which added to the general gloom occasioned by the failure. By noon the next day, we succeeded in getting the load nearly down, but it landed high up on the incline at the cliff base. We got it on down by moving the pulleys some hundreds of feet out on the canyon floor. Next, we found that a moderate load would carry over and run much easier. By putting a crank on one end of a large drum at the top over which the wire passed, I was able to operate it by myself and was able to run down several thousand barrel staves. The wire, being soft and pliable gradually stretched giving me a chance to study it in the various degrees of tightness and slack. I found that when the wire stretched out so the loads would land high up on the incline it would run much easier than when they carried over.

I had hoped that the wire would, in time stop stretching making it possible to load heavy enough to run on it's own power and carry though into the floor of the canyon. But after many hundreds of feet of wire had been cut out and it was still stretching badly I finally decided to move the pulleys out still further on the floor of the canyon and splice in additional wire to cover the extra difference. After this was done I went to the top, alone, to try it out. I did much of the work alone and have made as many as three trips from top to bottom or visa-versa, in one day. I put on a load of about two hundred pounds and to my great surprise the machinery started to run away. I grabbed the crank at the end of the large drum and stopped it. This was the first time it had run on its own power and I was caught entirely off my guard, having never provided a brake of any kind. There was nothing within reach that I could use and there was only one things to do: hold onto the crank and keep the machinery under control until the three thousand feet of wire had passed over the drum and the load had reached the canyon floor. This I did but what I endured in lowering that load is more than I can explain. I felt that I had the design worked out, but I knew if I let go of the crank, all would be lost. The crank was about two feet long, which gave it about a four-foot sweep; the wave of the wire at times carried me off my feet compelling me to brace myself under the frame. The load finally landed successfully and after resting from exhaustion I provided a brake and ran a few more loads. I had the satisfaction of seeing the machinery run the way my theory predicted.

## **Silver Reef and Harrisburg**

### Silver Reef

Silver Reef is located about one and one-half miles from Leeds, Utah. It was settled in 1876 following the discovery of silver in nearby sandstone. It is rare, indeed, for silver to be found in sandstone and the initial discovery was, according to one charming legend that could be as true as any other, the result of a hoax. A broken grindstone was taken for evaluation to a Pioche, Nevada assayer who had a reputation of finding pay dirt anywhere he looked. After being convinced that it actually contained silver, intense interest developed in the source of the grindstone, the Silver Reef area. John Kemple filed the first mining claim. Later, William Barber, a prospector for the Walker Brothers in Salt Lake City discovered silver as a result of a wagon wheel breaking off a piece of a ledge as it passed over.

Mining in Pioche, not too far away in Nevada, was in a slump at the time and miners and businessmen rushed to Silver Reef. Stagecoach lines were changed to run directly from Pioche to Leeds. Masses of people flocked in; a thousand coming in just one four-month period. Overpopulation and lack of shelter quickly became a problem. Word went out, "Don't come unless you bring your blankets and plenty of grub". Three other settlements were attempted but were short lived: Bonanza Flat, one-half mile south of Silver Reef; Chloride City a half mile west of Leeds and Babylon city, five miles north east of Leeds near the Virgin River. Two stamping mills were built, one at Babylon City the other on Ash Creek half way between Toquerville and the Virgin River.

In Silver Reef's heyday, Main Street boasted of nine saloons, three cafes, one lodging house, four assay offices, one notary public, two barbers, a hardware store, five general merchandise and clothing stores, a billiard saloon, a furniture store, a printing shop, two butcher shops, two bakery shops, a news depot, an express office, three shoe repair shops, one cabinet shop, one cigar and tobacco shop, a magistrate office, a drug store, several attorney's offices, three Chinese laundries, two breweries, a telegraph office, several houses of ill repute, a hospital, and beginning in 1879, a school that opened with 75 students.

A fire burned much of the city in 1879, and soon after another fire burned nearly half of Chinatown. The latter was probably due to arson. Chinese residents were victims of cruel prejudice; their homes were stoned, they had to bury their dead away from "nice" people. The Chinese custom of placing food offerings on graves was a boon to local Indians who reveled in the unexpected food gathering opportunities. (They no doubt had to compete for the goodies with some the local whites) Two other cemeteries were maintained, both still in existence, one for Catholics, one for all others. Sometime after Silver Reef's demise, a wealthy Chinese San Francisco businessman had the Chinese bodies exhumed and returned to their homeland.

Nobody had it easy, of course. Claim jumping was a common occurrence. Robberies took place almost daily; on one attempted stage robbery, only fifteen dollars was found in the box. Across the street from the Wells Fargo building a double murder took place; a shootout in front of the saloon resulted in both men falling mortally wounded. One noted murder was that of a popular mine foreman named Mike Curtis. A miner, disgruntled at having been laid off, waylaid Mike, forced him into a nearby cabin at gun point and stabbed him to death. The miner, Tom Forest, hid in a mine but was tracked down with the aid of Indians. Lynch-fever was high, but he was turned over to the St George sheriff. That night, though, the miners wrested control of Tom and hanged him from a tree in the front yard of the Cottam home. Five hundred citizens attended Tom Forest's funeral; the grave can still be found. Altogether, there were at least ten murders and six suicides. White slavery was a fact of life; so were opium dens and Chinese lotteries.

Social and recreational activities consisted of drinking; gambling; lotteries; attending bordellos; horse racing beginning in 1880; (The first race was won by a Mormon) foot racing, particularly between Indian men and women; cock fights; dog and lynx fights; shooting matches; and square dancing.

The Silver Reef Miner, a local newspaper took a vigorous stand against the entire Chinese Race, Irish laborers, and any Mormon Church authority that became known to the editors.

By 1890, the best ore was gone; there were still 640 mining claims, but only 177 people left to work them. A drop in the price of silver from \$1.20 to 65 cents per ounce prompted the mine owners to cut wages from four dollars to two dollars per day. This triggered a strike that in turn caused mine closures. By 1910, Silver Reef was basically a ghost town. Eight to ten million dollars worth of silver had been extracted from the three main producing reefs during its life, however.

As a certifiable den of iniquity, Silver Reef was shunned by faithful Mormons who heeded their leaders' warnings; not all Mormons were that faithful, of course. At the same time it was a cash market for the farm produce, meat, and timber that local Mormon settlers desperately needed to sell. Their spiritual salvation depended on giving the place a wide berth; their economic salvation depended selling their farm and forest products.

### Harrisburg

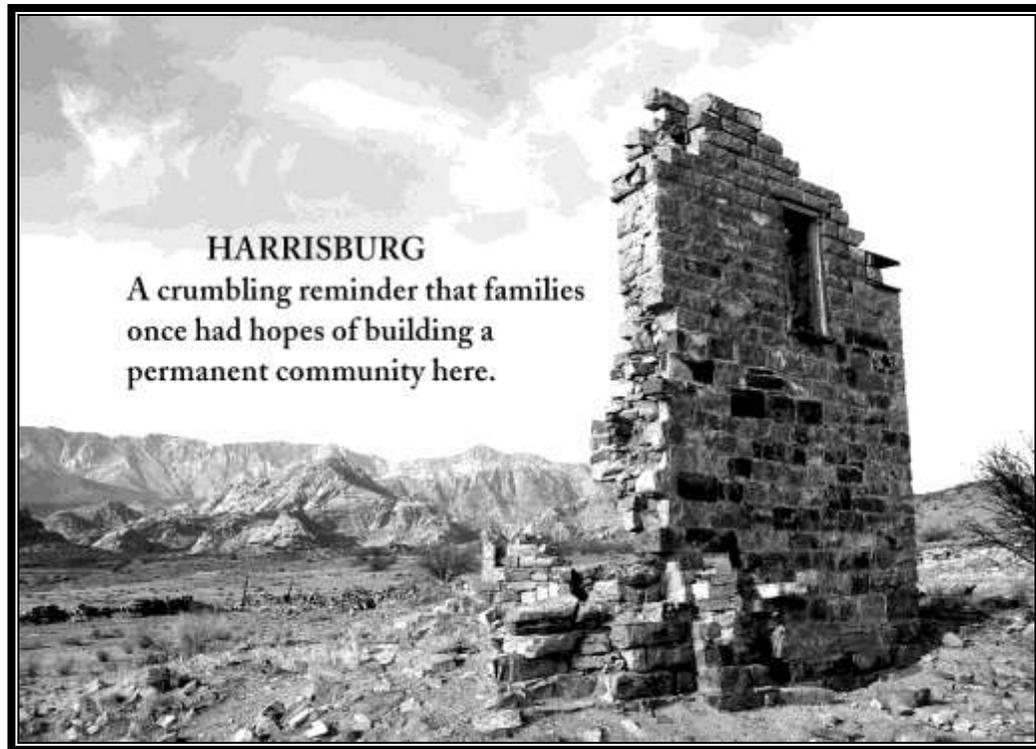
Harrisburg began with a different name, and at a different location than it was later to occupy. In 1859, Moses Harris led a small group of Mormons that included his two grown sons to an attractive spot where Quail Creek joined the Virgin River; they named their settlement "Cottonwood". The Harris group had returned to Utah from San Bernardino, California at the behest of Brigham Young who had so ordered all outlying Mormon settlers in response to the threat posed by Johnston's army. They were soon joined by many of their former neighbors and the population reached 200 by 1866. A church and a school were built, the school serving as many as sixty students. Brigham Young, who seemed to take a lively interest in what people called things, visited and suggested the town be renamed "Harrisburg" in honor of Moses Harris; the suggestion was honored.

Flooding Plus the space limitations of the original site prompted the settlers to move West a couple of miles to the present ghost-town location where Cottonwood Creek joins Quail Creek. The original orchards and alfalfa fields were maintained, of course, until they were covered by Quail Lake. (Please note that the Quail Creek Dam is on the east side of the lake; the more obvious structure on the south is a dike. It is the dike that ruptured a few years ago)

Harrisburg was on one of the main routes leading from Salt Lake to California; the route through Mountain Meadows and down the Santa Clara Creek, further to the west, was another. Wagon trains became an important market for local fruit, grapes, hay and other produce. The downside of this was the constant disruptive influence of outsiders. Journals, diaries, and letters indicate that Harrisburg was not a model of law abiding contentment.

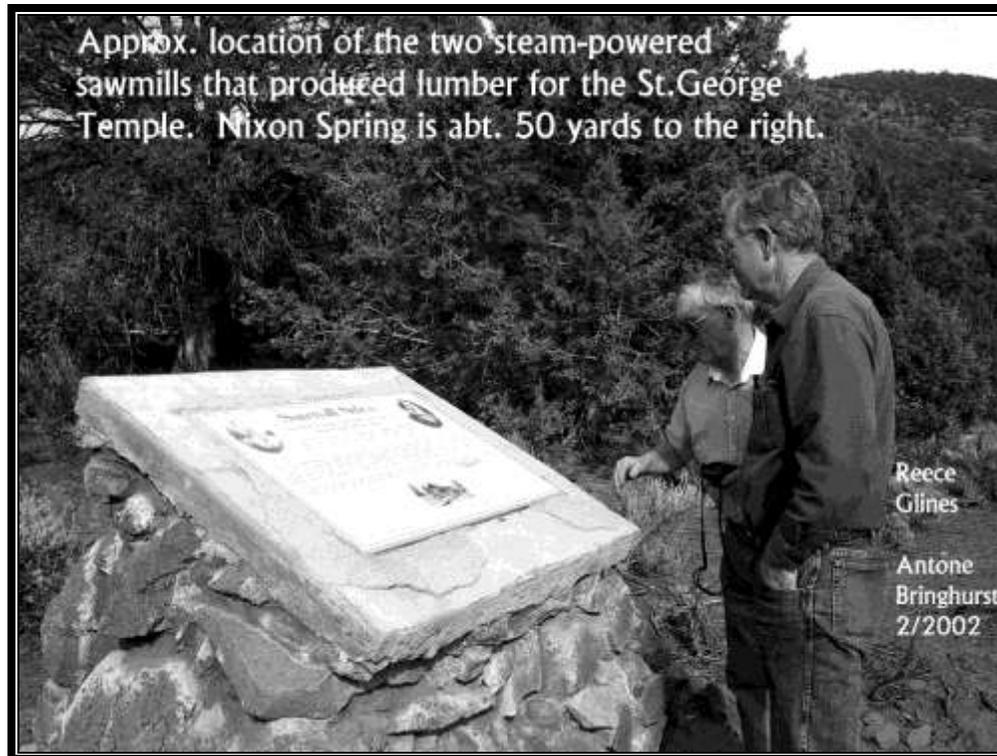
The community's life was jeopardized in 1869 when a plague of grasshoppers struck. A greater tragedy occurred a year later when a prolonged drought set in. Limitations of the two little streams from which life depended became apparent: there was no reserve flow to be utilized in time of need; other areas had claims on some of the water. Harrisburg died. Most of the residents moved to Leeds.

The freeway obliterates much of Harrisburg. Some ruined rock houses remain along with miles of hand built rock fences. Most of these can be viewed from the highway leading to Red Cliffs State Park. All that lives of the old community is the little graveyard.



### **Mt. Trumbull, Torowep and Bundyville**

Mount Trumbull sawmilling began in 1874, operated by the United Order to produce the million board feet of lumber needed for the St George Temple. Two sawmills were established, each powered by thirty horsepower steam engines. One mill was apparently first owned by John D Lee and operated at Skutumpah. It was dismantled and set up at Trumbull when he left for the Paria. The other was apparently purchased new by the Church to process the Trumbull timber. Irwin Foster's grandfather, Will Nixon, for whom Nixon Springs was named, was in charge of bringing in logs for sawing into wood. A recommendation to build a wooden railroad track from Mt. Trumbull to St. George for hauling the lumber was rejected in favor of horse-drawn wagons. Much of the lumber was hauled directly to St. George on the road that drops down over the Hurricane Hill five miles south of the Navajo Trail and then proceeds up the Hurricane Valley to the Fort Pierce Wash. The surplus was hauled to Antelope Springs for storage during the summer, and then hauled on into St. George during the winter on a route that followed the Honeymoon Trail.



Cecil Dutton and two of his brothers bought a sawmill in the early 1940's, during World War II that was located a few miles south of Nixon Springs up the Mt. Logan road. There was no water at the mill site; they hauled it up from the springs. One brother soon left, but Cecil and his brother, Dell, kept it going. It was in much worse shape than they were led to believe when they bought it. It broke down a lot and they never really made it pay, but in spite of the frustration, they stayed on for a number of summers; heavy snows prevented winter work. There were no chain saws in those days; trees were felled with a two-man saw. Only those trees were cut that had been marked for harvesting by the forest ranger. Logs for milling were loaded on the truck by use of a caterpillar tractor pulling a cable tied to the trunk over a fulcrum made of two Quaking Aspen logs. Dell was the mechanical expert; his tinkering kept the operation struggling along. When the first mill engine died, they acquired a 1927 Buick motor and installed it. Lumbering has always been an accident-prone venture; fortunately no serious injuries occurred. As indicated, profits were meager indeed; eventually they just about gave the mill away.

Delma, enjoyed spending the summers at the mill with her little kids. Dell and his wife, Melba, were childless, but they treated Delma's as their own. Melba had baked a cobbler one day and when Dean went to eat it he said, "Gosh Mama, this sure is soggy stuff." Delma was mortified, but Melba just thought it was funny. Although they were small, Dean and Kelly, helped with the work. They would trim branches from the felled trees then place them on the ground in a prescribed manner to facilitate their return to the forest ecosystem. Kelly took time out of his busy work schedule one day to start a little forest fire. His dad finally got it put out then told Kelly, "If you promise not to do this again, I won't report you to the ranger". Kelly complied. Sometimes the boys would tease or chase each other, dodging to and fro through the forest. Melba adopted an

incredibly ugly runt pig she named "Cody" that stayed little all its life. When she called "COE--DEE!" it would come running, squealing all the way. Every morning she would cook up a batch of hotcakes, some for the adults, but mostly for Cody; he loved them. Nothing was too good for him and he no doubt assumed he was one of the Dutton children. The main wild animals in evidence were the spectacular Kiabab squirrels, and rats. The rats developed a taste for wartime rubber; a tire might survive the sharp rocks on the Bundyville road only to succumb to the neighborhood rodents. The families lived in adjacent cabins and Delma and Melba enjoyed sharing chores such as washing clothes, and even though they were far from the city, they took pride in having sparkling clean laundry. The bad news about washday was that clothes had to be washed by hand with very little water; the good news was that they owned very few clothes so loads were light. As a rule, Delma took care of domestic chores and let the men run the mill. One time, though she sawed up a load of lumber for a waiting trucker when the crew was short-handed. It was a scary experience, one she didn't wish to repeat. A family would occasionally ride back to town in a lumber truck. When Cecil's family went, the adults rode in the cab and the children rode back with the lumber, it having been loaded in such a way as to provide a cozy little den for them.

A neighboring rancher, Bob Sullivan, raised corn and pigs. He would bring fresh corn to the Dutton's. He had a pet blow snake that spent most of its time in the rafters of his ranch house. Whether or not they actually had affection for one another is unknown.

The main road to Nixon Springs in those days came through Bundyville. The road up over the hill from Bundyville was terrible. Besides being narrow and steep, it was full of sharp rocks that would quickly destroy the poor-quality tires that were available during the war. They didn't run the mill on Sunday's, but since there was no place to hold services, they "rested" by moving jagged rocks off from the Bundyville road.

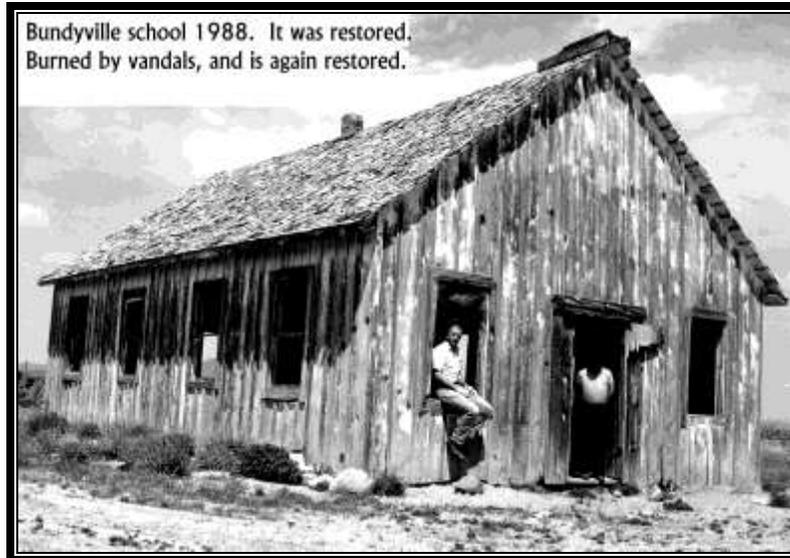
Dell homesteaded some property, around to the Northeast of the sawmill that was later acquired by the BLM. One fall in the late 1940's, Cecil was helping Dell and Melba on the homestead, when a very heavy snow fell, trapping them. There was concern back in the communities about a number of ranchers marooned by the snow. Junior Eager was asked to take a strong sack filled with groceries and fly out over the area in case the Dutton's needed aid. He searched until about sundown, then finally saw the three of them standing by the doorway of Dell's ranch house. He circled about to determine if they were OK. Then in a final very low pass he opened a door and tossed the sack out. Dell was by then out in the snow but with his back to the approaching aircraft; when he whirled around, it seemed that the plane was right on top of him and trying to bomb him. He later told Junior that when he wanted a haircut, he would go to the barber.

### Mrs. James (Chloe) Bundy of Bundyville (Mt. Trumball City)AZ

Bundyville was settled by mostly Bundy and Iverson families who came from Littlefield AZ by way of Mexico and then the Muddy River valley. The first settlers arrived Thanksgiving day, 1916; there were thirty-two people by the end of 1917 with a maximum of just under 200 along in the thirty's. The first settlers apparently assumed that water was available; unfortunately, well digging proved fruitless. Catching runoff

from precipitation was the only local source. There are three springs within twelve miles, Nixon above the fault and Big Springs and Coal Springs down in the valley. A project to pipe water from Big Springs died when World War II broke out. Bundyville never had running water or electricity. There were, however, a Bundyville Ward, a Bundyville one-room school, and a post office. Chloe Bundy, wife of James, was the postmistress; the office occupied one corner of her living room. The death of Bundyville came in the late 60's. The school closed in 1968; the ward was dissolved in 1970 after having been kept going for sometime on life-support systems. Younger people were being weaned away from the primitive municipal services by attending high school in St. George; older people wanted to be closer to the Temple. They finally dismantled their buildings and moved out. Once a year at least, on July Fourth, the area attracts vastly more Bundys and their ilk than it ever did when the town was alive.

Chloe Van Leuven Bundy was born in 1888 and died in 1977. She and her husband, James, were early settlers of Mt. Trumbull City. Neither got to go to school beyond the eighth grade. Chloe achieved widespread fame during World War II as a newspaper columnist. The Washington County News was mailed out to local servicemen in every theater of operations. Young men who barely knew of Arizona, much less the Arizona Strip, began eagerly awaiting the arrival of a friend's hometown newspaper so they could get the latest on Pa's Pockets or the details of an exciting Relief Society meeting. The column was just a small part of her life however. Besides being postmistress and Bishop's wife, she was a much sought after mid-wife, an election judge, an MIA president, a Relief Society president; and she did many things to enrich the lives of her children. She wrote and produced little plays in which her children and their friends performed. She encouraged her children to have parties to which the local children were invited, and Chloe had as much fun as anyone. She was known to bake a couple of dozen pies for a social event. She was guided by the "spirit of the law", not the "letter"; it was fine with her, as a bishop's wife, for the children to enjoy card games in the living room even though some of her neighbors considered them to be "Fifty-two souls of the Devil". She was quite possessive of her children, generally in a charming way. She wanted to be part of their lives and would scold them if they didn't relate the full details of their comings and goings.



How her journalistic career got launched is unknown; the fact that she was postmistress thus privy to town gossip made her a logical choice, of course. When first approached for the job, she protested that Bundyville might barely generate enough news for a yearly column, never mind a weekly. When they convinced her, however, that the word "news" could mean about anything she wanted it to, it unleashed her creative powers.

Her writing combined an eye and ear for detail; playfulness, and a certain naiveté. In one column she reported verbatim a conversation she had with a squirrel down in Pa's Pockets; and make no mistake, the conversation was real. Her family's affairs, of course, provided most of her material. One evening some of her sons returned from a short trip. They got to discussing a little after-dark deer-hunting episode in which a spotlight played a major role. Later they were horrified to read the complete details in the Washington County News; they envisioned heavy fines and months or years behind bars. Chloe simply assumed that whatever her boys did would be well within the law; if it was newsworthy, print it. Washington County News excerpts:

April 21, 1949. We took our Easter eggs and lunches and went out to Ivan Patch flat for our outing. Here we had a rollicking good time playing games and associating together.

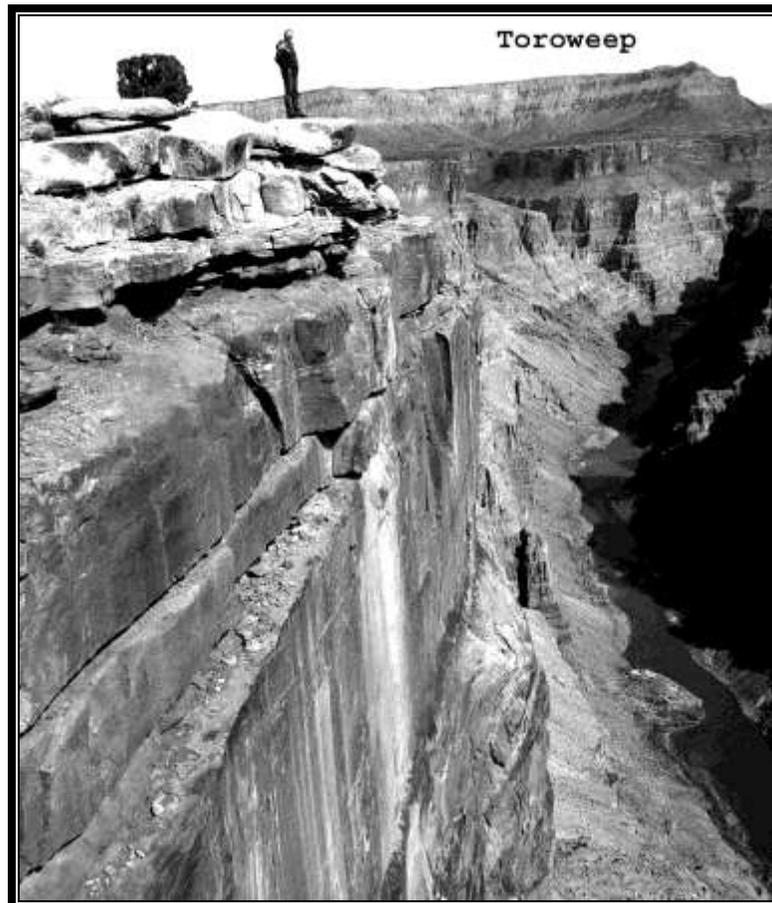
May 5, 1949. Yes, at last I find myself in Pa's Pockets and what a wonderful dream come true. All winter I watched the snow banks grow higher and higher, blocking my chance to join my husband at Pa's Pockets. But all the time I could see the grass and the flowers spring forth as a result of the deep snow.

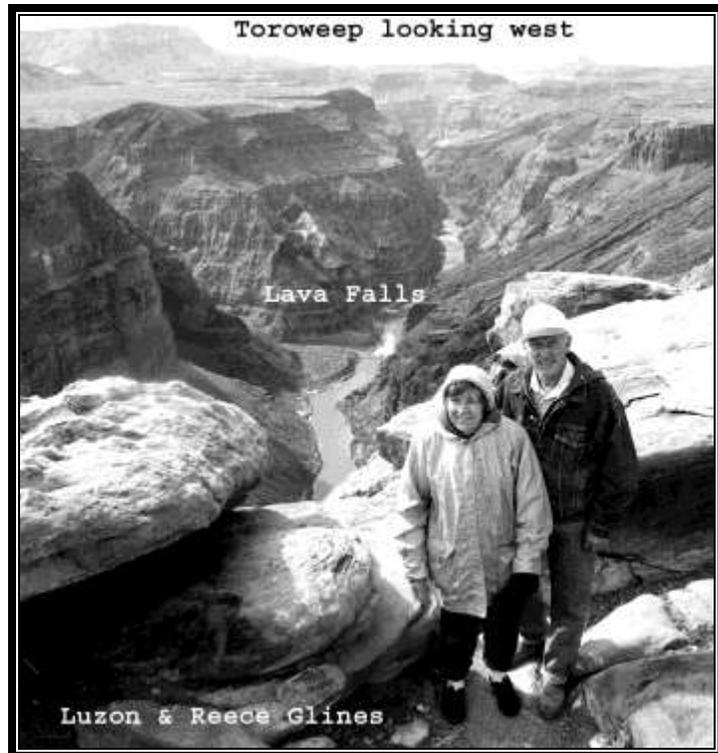
May 19, 1949. It's news this time; we really got the rain. We were all in church and during the recess hour here came a storm up through the valley, and it was really a good one. First was a pounding hail mixed with big drops of rain, then it came faster and harder until it was really coming down and soon the water was running everywhere. The hard storm passed over and it continued to fall lightly for a short time and then the big storm turned and came back over us and this time it was a cloudburst!

(Monday) Mr. Elmo Bundy has his truck out of the mud and they are ready to try to get home this morning after spending the night at the home of the James Bundy's. James G. Bundy (Chloe's husband) has yet to get his truck out of the mud.

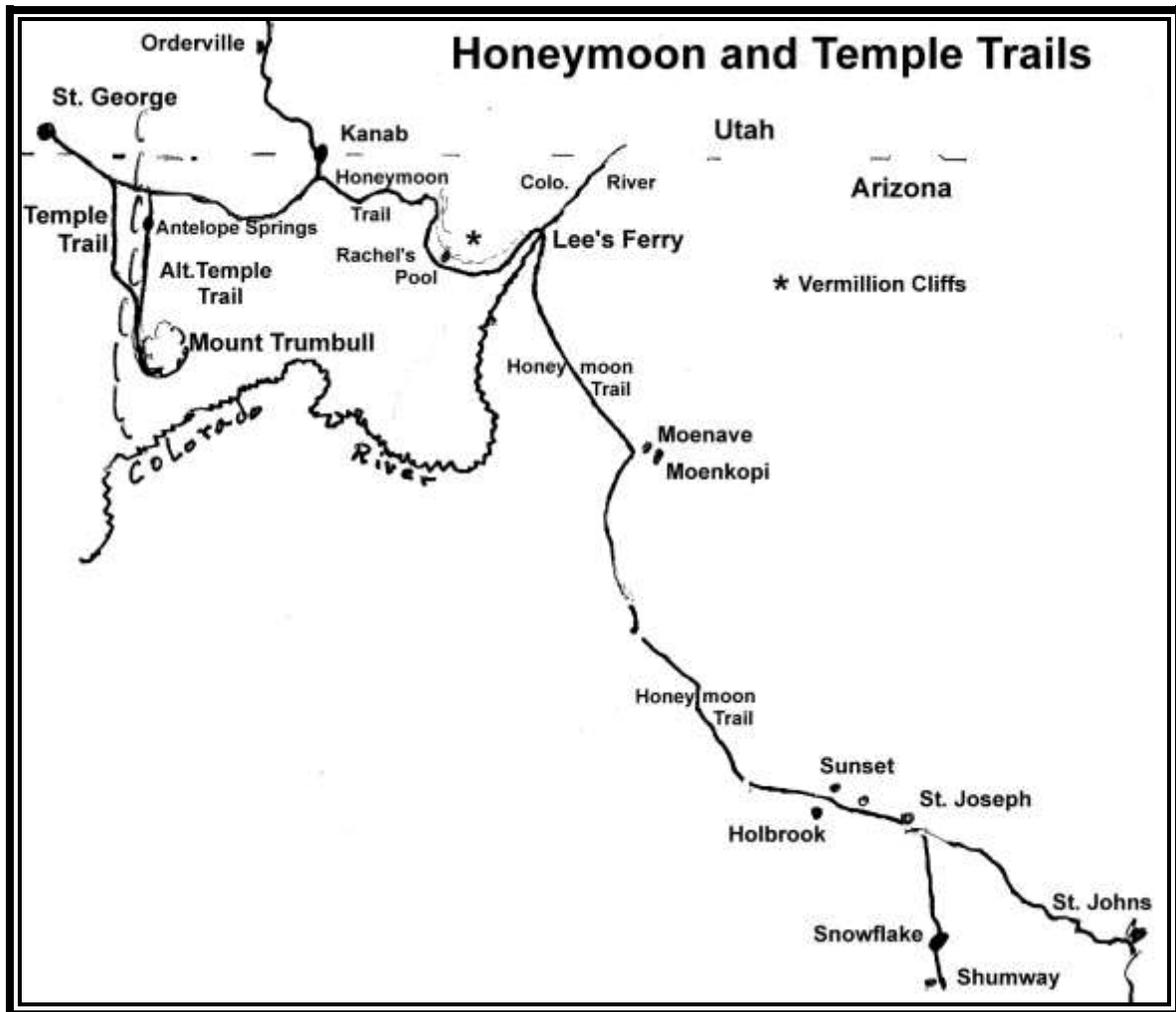
(Describing efforts to get their family "jalopy" out of the mud) But, oh dear the poor old thing tried to go but got so much mud stuck on its feet and everywhere that it could scarcely make a go of it. Well, after tugging along sliding back and forth and sometimes nearly turning end for end it plowed along and did it splash and throw the mud. Well, you would have known it did, could you have seen Mrs. Bundy. (Chloe) She was simply plastered with mud. As you will remember from former descriptions, the little jalopy does not have any fenders, top, cab or floor, so she just held to her seat and though her face was smeared with mud she called out, "Oh, we'll make it, just wait and see." It took some time to do it but finally we made it home and we're glad and the little old jalopy is still OK.

1. Footprints on AZ STRIP, Cox, Nellie. 2. Wash. Co. News Files. 1949 3. Nathella B. Wood, 1993. Victor Hall





## Lee's Ferry



Lee's Ferry, a crucial facility along the Honeymoon Trail

### Early Crossings

The key to Mormon colonization in Arizona was a way to cross the Colorado River. The Grand Canyon, a mile deep and two hundred miles long, separated southern Arizona from the early Utah Mormon settlements. As far as we know, the first white men to record crossing the Colorado River in this area were Father Escalante and his group, who came into the area in 1776. They followed the age-old Ute trail to the river, crossing some thirty miles above the mouth of the Paria at what was called "The Crossing of the Fathers." Here also Jacob Hamblin made his first ford in 1858, the same trail he followed many times thereafter. Although Hamblin had been at the mouth of the Paria (later Lee's Ferry) in 1858, the first crossing of the river was made in the fall of 1860 by a portion of a party headed by Hamblin. A raft was constructed, on which a few were taken across, but after one animal drowned, it could be clearly seen that the dangers were too

great. There being no southern outlet, the party made its way up the river to the ford. The first successful crossing at the Paria was by Hamblin in March 1864 on a raft. Traveling down the stream in 1869, the Powell party stopped at Lee's Ferry and made it a supply point on later trips. It was in December 1876 that Harrison Pearce established a regular ferry below the Grand Canyon on; hence, today the place bears the name of Pearce's Ferry. In March 1864 Erastus Snow sent Jacob Hamblin and other missionaries to the Moqui villages to find some stolen horses and to persuade two natives to return with the missionaries to learn the trades of smithing and woodwork. Theirs was the first Mormon group to cross the Colorado at Lee's Ferry. They crossed on a raft on 22 March 1864. They arrived at the Moqui village of Offbe, amazed to see such a civilized tribe of Indians. The missionaries failed to retrieve any horses or to persuade any Indians to return with them. Their Moqui forefathers had warned the tribe never to cross the Colorado to the north and had promised them that if they would adhere to that injunction, they would be blessed. Jacob Hamblin desired to return to these same Moqui villages in the fall of 1864. Brother Isaac Riddle accompanied him on this mission and recorded that it was in the fall of 1864 that Jacob Hamblin and myself and six others undertook to perform a mission to (the Moquis) to preach to them the principles of the Gospel. It was on this trip that we had another evidence of God with us. We crossed the Colorado River on a raft at the point where Lee's Ferry was later constructed, and struck across the country on the Old Ute trail. But it had been a dry season and we passed first one empty water hole and then another until it looked as if there was no water in the country at all. Thanks to a previous visit to the area, the missionaries knew that, when they reached the big rock water tank, in the country of Spaneshank, they would have plenty of water. But when they located this "natural tank," they found that it too was empty. Worse, they knew that there was no water on the trail for a distance of fifty miles. Continuing his narrative, Riddle wrote: Hamblin asked me if I thought I could find the spring where Old Spaneshank was camped the time we first met him. I was not sure, but I said I would try, and leaving the company, I climbed up a high, steep mountain which the trail skirted, telling the boys to go on and I would from the top get our course and meet them on the farther side. It was difficult climbing, but by dint and much hard work, crawling part of the time on my hands and knees, I reached the summit. And then when I looked over, lo! there before me, almost within arm's reach, lay a clear pool of rain water. I took a drink of it, and a little farther on discovered two larger pools, sufficient for the whole company and all our horses. The descent from the other side was easy, and we found that we could lead the horses up to the larger pool. And when we drunk our fill, and attended to our horses we knelt down and returned thanks to God for our deliverance. Finding water made the journey to the Moqui village easier. Once at the settlement, the brethren established themselves with the Moquis for the winter. According to Riddle they sought to help the Indians and to teach them thee gospel. Jacob Hamblin crossed the Colorado at Lee's Ferry again in October 1870, at the request of Major Powell and with Indian leaders at Ft. Defiance, New Mexico, to establish a peace treaty with the Navajos. He recorded: We packed lumber on mules over the Kiabab, or Buckskin Mountain, (Buckskin is the lower northern extension of Kiabab) to the crossing of the Colorado, now known as Lee's Ferry. With this we constructed a small boat, in which we conveyed our luggage across. Our animals crossed over by swimming. We traveled at night most of the way, to preserve our animals from the Indians. We visited all the Moquis towns, seven in number, and had a most interesting talk with the people. Hence this crossing on the Colorado River was not unknown when John D. Lee arrived, nor was the idea of a ferry

new, but Lee was first to bring wagons and open the way to wagon travel into Arizona. In his journal entry for 15 [16] November 1871, Lee recorded a private conversation with Jacob Hamblin concerning a settlement at the crossing on the Colorado River. Hamblin told Lee that "many good ranches" could be established there and encouraged Lee to settle at the crossing.

### The John D. Lee Family in the Lonely Dell.

Following Hamblin's advice, Lee, his wife Emma, and their four young children (a fifth would be born within a month), arrived at the crossing on 21 December 1871. They walked over the roughest stretches, while Lee tried to make enough of a road to keep the wagon from tipping over. Legend holds that when Emma saw the valley at the mouth of the Paria, a sandy floor dotted with desert brush and walled with cliffs as barren as the second day of creation, she exclaimed, "Oh, what a lonely dell!" (She was, after all, a convert, born and raised in the lushness of England.) The name stuck. From that day forth it unofficially headed all letters and diary entries until 24 July 1872, when Lee wrote proudly that "Major Powell adopted my name for the place Lonely Dell and so ordered it to be printed on US maps." While he lived there, Lee kept a daily record of his life at this outpost. He gave us an intimate picture of the problems involved in living where the nearest town, Kanab, was ninety miles away, and the Paria settlement on the plateau above, "forty miles by Indian trail and one hundred miles by wagon road." Lee and his family had arrived at Lonely Dell just before Christmas in 1871. Juanita Brooks describes the Lee family's initial settlement and first Christmas at Lonely Dell through the eyes of Emma Lee. "First, the one wagon was unloaded and the box set off the wheels onto corner stones to keep it out of the sand. This was to be her bedroom and the general storeroom for their most precious items. The rag carpet from the living room back home was spread over the top of the regular wagon cover for extra warmth; a blanket was hung over the front entrance, a braided rug was placed on the floor. The trunk of clothing, the box of baby things, the few books, the little tin box of medicine and mementos all found a place in this bedroom. The children would all sleep in the other wagon. There was a double advantage in having her place here upon the ground; she could get into and out of it easier, and the running gears of the wagon were then free to be used to haul driftwood logs from the riverbank or willows from the creek. The kitchen was only a windbreak, with a tarp pulled tightly around three posts and a place for a fire in the open end. One shelf nailed between two of the posts held the supplies for cooking. With only four days before Christmas, Emma must have been busy indeed. Christmas Eve was a clear quiet night with the stars hanging low, one luminous one in the western sky bright as if it hung over the manger. Without any of the trappings of Christmas, they observed it, the children joining in the carols and John D. reading the matchless story from Luke almost from memory. The gifts? They would wait until the next morning—rag dolls and a double slate with two slate pencils for the twins, a larger doll that Aunt Rachel had put in for Belle, . . . a pocketknife for each of the older boys, Billy and Ike, and a toy flute for Jimmie." For John, Emma had knitted a wool muffler of fine gray yarn. For goodies, she had cookies and some hardtack candy from a can hidden in the flour bin and a half-dozen apples from the bottom of the trunk. It pleased her to have been able to keep everything a surprise, even from her husband. Now it was her time to be surprised, for she had no idea there was a gift for her. Billy and Ike came carrying it through the brush—a chair made of willows. Arched, curving willows formed the back and arms; smoothed off willows close together made the seat. It was a sturdy chair with a beauty all of its

own. "And here I thought you were chopping willows to make a coop for the hens," she said, kissing each lad in turn. "We were, but we picked the longest and smoothest for this. Father really made it; we only furnished the willows." Lee's attention now turned to more permanent means of shelter. Of this he wrote, Thursday 28 [Dec.] 1871... Now all my energies was turned to building a couple of houses for Emma was still in suspense. I fixed her as comfortable as I could with carpeting, tent, etc. This evening we encountered a desperate tornado, accompanied with heavy rain etc. Up to Jan. 12, 1872, I finished the two houses, laid the floors with flag rock and commenced a stone corral. After the storm, help arrived when Lee's wife Rachel arrived with her four boys. Rachel came to help with Emma's confinement. The boys helped with the building. The houses finished, corrals made, a chicken coop of woven willows secure against coyotes, Lee made a short trip to check on the cattle and horses he had left in the valleys along the stream. He returned to find that he had "an increase in my family. Emma B. was delivered of a daughter on Wed. Jan. 17th about 7 o'clock p.m. and named it Frances Dell after the place of our location and her sister Fanny. We butchered a fine beef. In addition to weather problems, John D. Lee suffered from ague and fever, as he describes, Feb., Thursday, 1st, 1872..." "My fever and ague Still Stick to me, like Poverty which stands by, then [when] all friends forsake and was it not for the amount of labor so urgent to be done, we would be lonesome. For over a month we have not seen the face of a white man and not even a word from the inner world.... The weather continues fine for business; no snow, not even to cover the ground, But we have been visited with two heavy wind storms or rather a tornado. One of them was accompanied with a heavy rain. During the gale I lay shaking with ague, while Rachel stood and held the cover down. This storm reminded me of fonner storms as the heaps of sand indicated, which I considered as a timely warning not to build in this place. So I selected a location a little further down the valley where the N.W. Winds would not have so faire a sweep.... [A year later in January 1873] The wind blew a Hurricane, unroofed the house and blew some of the lumber 100 yards. Turned cold and froze hard. More important always than the ferry business was the task of raising food in this hostile environment." First, last, and all the time was the problem of irrigation water. The Paria, normally a small, quiet stream, drained a wide area, and rain on its far reaches might bring a flash flood that would scoop out the dam and fill the ditches. The following entries reveal an oft-repeated pattern: June 12, 1872 Now begins the tug of war. A dam eight foot deep and seven rods long to make besides heavy repairs on the ditch, before water can be brought to revive the dying crops, vines and trees. However immediately we went to work.... I with my four little boys and what assistance Emma could render with a young babe at her Breast, we continued our exertions for 21 days, watering the fruit trees and some vines by hand and by the grace of God we finally conquered and brought out the water and began to revive our dying crop. Just one month later, on July 20, Lee wrote: "On reaching the Dell I found that a much greater freshet than any of the season had been and swept a portion of my Dam away and filled up my irrigating ditch some two feet deep with muck or clammy mud. To remove this deposit out of the ditch was more than equal to making a new ditch.... At the expiration of ten more days labor we had the water out again." Each year it was the same, with such entries as "all hands on the dam," or "our energies were on the dam until we almost despaired of ever getting the water in time to save our trees and vines," being common. Lee began to plant crops early in the spring of 1872, as reflected in his journal: "Mar. 1st, 1872. Warm fine day. I ploughed and sowed a patch of wheat and lucerne and for garden. Saturday, March 2<sup>nd</sup>, 1872, planted onions, parsnips,

radish, lettuce, rhubarb, etc.” The fruits of their labors of the first year were realized: “Thursday, July 25<sup>th</sup>, 1872. Our energies were again directed towards my crops, strengthening and supporting our water-works, ploughing out our corn, vines etc. After a series of hard labor, we are beginning to enjoy the fruits of our labor daily as green corn, vegetable marrow or summer squash, cucumbers, beets, onions, radish, and beans and a few melons are in full blast. They were not only a treat but a great blessing to us in desert country.”

### Establishment of the Ferry

The first to be ferried across the river were Indians. On Friday, January 19<sup>th</sup>, 1872, Lee recorded: “Before sunrise we was Saluted by the whoops and yells of a band of fifteen Navajos, pleading with us to set them over the river. About the same [time] the Boys had caught a wolf in the Pen and was having a little fun with the dogs. We were but three men strong, three women and thirteen little children and 100 Ms. from settlements, and fifteen Braves to come over amongst us. The spirit said help them over, so I with Samuel & James and My wife Rachel Andora commenced to cork an old flat boat [evidently the one built by Major Powell the year before when he went to visit the Moquis] and by noon we were ready to cross. When we launched the Boat, My two sons, Samuel and Jas., faltered, feared to venture with such a craft. My wife, Rachel Andora, said that she would go over with me and steer. When we reached the opposite side, the natives met us with open arms of friendship. They were heavy-loaded with blankets full of cloth, calico, domestics, made up clothing, linseys and handkerchiefs. After much difficulty, we succeeded in getting them and their luggage over safe. Next was their horses which we failed to swim over after two trials and nearly upsetting the boat”. When Lee finished all the crossings, it was nightfall, and the last three hours he had worked with fever and ague. When he reached the fire on shore he was so exhausted that he staggered. One of the Indians caught him in his arms, and another threw his blankets over him; four of them helped him to the cabin. The next day Lee traded two horses for some of their wares, part of which he again exchanged at the settlements for three hundred grape roots. Indians frequently visited the ferry. In 1875, when the Mormon settlers had problems with Indian raids, the Mormons even placed guards at Lee's Ferry, as well as at Ute Crossing, to control the number of Indians crossing the Colorado. Warren M. Johnson reported that 522 Indians crossed from the south side between 1 April to 1 November 1875. Other early visitors to the ferry were members of John Wesley Powell's expedition and certain miners and prospectors. They even helped some with the washed-out dam, and Lee appreciated their assistance. The Powell party were there on 24 July 1872, enjoying the garden vegetables Lee had produced. Lee watched after the boats not being used by the Powell expedition. The mining boom at Pioche, Nevada, had been on since 1870, and rumors were that fabulous deposits of gold exposed in the reaches of the Grand Canyon. During the spring of 1872 several groups of miners and prospectors visited Lonely Dell. The Lee family were able to obtain much needed foodstuffs and even tools from these miners in exchange for ferry services. One such group, however, borrowed tools and dishes and then started down the river on a raft. Within a few miles the raft capsized, and they lost their traps and tools and nearly drowned themselves. This loss was a serious one for Lee, for tools especially were hard to come by so far from civilization.



X's indicate location of the ferry terminals.

### Use of the Ferry for Mormon Colonization in Arizona

The ferry had served the missionaries who went among the Indians, the miners, and the Powell party, but its real value developed as a crossing for Mormon colonizers sent by Brigham Young into Arizona. Lee received word on Christmas Day 1872 that Brigham Young was coming to St. George, and that trouble was brewing anew over polygamy, so that men with more than one wife might have to flee the law. Lumber had been brought in October for the boat. Lee continues: "Uncle Tommy Smith and two sons arrived on 16 December to build it. Work began in earnest, and the boat was launched 11 January 1873. Twenty-two people were on hand for the occasion, and after eating dinner in the bottom of the boat, they launched the boat and called her the "Colorado" and the skiff we named the "Pahreah". The Colorado is 26 by 8 1/2 feet, strong, a staunch craft and well constructed and a light runner. The party present all crossed on her to christen her and take a pleasure fide. We crossed over and back twice. Uncle Tommy Smith and son, Robert, rowed her over and I steered. Set down a good post and fastened her with a cable chain and reached home about dusk." Further impetus was given to the ferry after Brigham Young conversed with Thomas L. Kane in St. George about settlements extending into Mexico and then dispatched the Arizona Exploring Company to make one last reconnaissance of the Little Colorado River and the Rio Verde country south of the San Francisco Mountains. This group, headed by Lorenzo Roundy, included such veterans of the Indian mission as Jacob Hamblin, Ira Hatch, and Andrew Gibbons. They arrived at Lonely Dell on 1 February 1873, crossed the river, and returned to the ferry by 25 February. In order to facilitate colonization, a road on the opposite side of the river had to be chiseled out of the rock up the steep embankment, for no wagon had yet crossed the stream. On 2 April 1874, a company arrived to undertake the making of the road. Under the direction of Joseph W. Young, with Edward Bunker and Isaac C. Haight as

assistants, the twenty-five men worked diligently for fifteen days; then they left Lee some powder and shot with which to blast away a few places where the cliff would not admit the passage of a wagon. The first company to pay for use of the new boat arrived on 22 April. Lee hauled their nine wagons over, along with at least thirty-three animals. Here he established the price, which was still in use in 1885; \$3.00 per wagon and seventy-five cents per animal, with no charge for people or luggage. From this first company he collected \$46.00, much of which was in flour, salt, meal, and groceries. Later companies came, one consisting of fifteen wagons on May ninth and another of eight wagons two days later. After successful days of ferrying, boat rides were taken sometimes at night for enjoyment, complete with a silver moon and music. Lee recorded: "Had one lady on board with us, had music by the constantina, (concertina?) dancing and singing. We had a splendid time." Some of the conversations after a long day of ferrying must also have been interesting, as recorded on 19 May 1873: "Evening quite a number of them spent of some social hours. By request I retold the incidents of that unfortunate affair called the Mountain Meadow. They seemed satisfied with my report. Baptisms were performed in the river when they celebrated Brigham Young's birthday on a Sunday. Brother Gibbons baptized two of Lee's sons and a grandson, as well as James Jones, a visitor. Lee said the meeting was spirited and warm and he and Brother Gibbons spoke on various gospel topics. By 24 May, crossing the river was more difficult because the water level had risen about ten feet. According to Lee, we were compelled to remove the crossing about one-half mile above on account of the swiftness of the current, then by means of a rope 100 feet long, we towed the boat up over one-half mile up both sides, making the crossing very hard. Nevertheless with care, perseverance and industry we succeeded in crossing sixty-one animals in all. Many of these first settlers were disenchanted with the difficulty of colonizing in the Arizona deserts, and one of the men took out his frustrations on Lee when he returned after a week on the south side of the river: "Monday., May 26, about 10 in the morning all safe without any accident with the exception of breaking two oars, one rough lock, and one wagon missing the boat as the wagon was rolled in and detained us about one hour, and one cow and one horse jumped off the boat and swam ashore all right. The Capt. of this company, Henry Day from Willow Creek, was not a man of much firmness, either in Mormonism or manly zeal. The first thing that [he said] when he came to the ferry was that it was a poor sh...n arrangement (to use the vulgar) and that this company never should have been sent on a Mission until a good road and ferry had been made first etc. I felt indignant at the impertinence of the man.... I replied, if the boat does not suit you, perhaps you do better. He replied that he was not sent to make roads nor build boats. I continued that better men than he was made road, bridges and boats from Nauvoo to Salt Lake, without whining half as much as you have at this Ferry. Brigham Young is the man that is at the head of this mission, and he knows what he is doing. He does not expect you to be carried through to A.Z. on flowery beds of ease, but to help prepare the way. The companies that have gone ahead had no roads or ferries, only as they make them and I do not believe they will grunt one-half so much to make their roads as you." Other settlers, becoming disenchanted with these difficult colonizing efforts, returned from across the river and abandoned heavy items, some even leaving their wagons as they returned to civilization. The final blow to the Arizona settlement for 1873 came when on 16 June "a heavy gale blew up from the south, blew a large tree into the harbor and dashed the ferry boat and broke her loose and she doubtless went over the rapids or sunk. When Lee heard that 600 soldiers were on their way to erect a military fort at Lonely Dell, he immediately left for

Moenkopi, a remote spot deep in northern Arizona's Indian country, where he remained nine months. Lee became very ill, either from over-exertion or poor food. He recorded in his journal that a bird came while he was ill, and he thought how nice it would be to send a message for help to Lonely Dell. Meanwhile his wife Rachel had a bird visit her, and she said she felt that she must travel immediately to Moenkopi, where she nursed her husband back to health. He concluded, "Thus was my prayers answered, and that, too, in a miraculous manner. Meanwhile Lee's other wife, Emma, left alone at Lonely Dell, after three months became a little nervous one day when ten Navajos crossed the river and made their camp down near the corral. She was frightened and concerned for her five children, who ranged in age from thirteen years to twenty months. She fed the children and had evening prayer, seeking for inspiration to know what to do. She marched the children down to the Indian camp with blankets and pillows and told them she was frightened. They snuggled up by the fire and soon fell asleep. In the morning she awoke just in time to see the Indians riding off. The Indian chief later told Jacob Hamblin about the incident with the comment, "Yawgatt's squaw very brave! Emma was expecting a baby during this episode in November 1873. Jacob Hamblin had promised to bring Sister Mangum to Lonely Dell to help Emma with the new arrival. Emma had been alone with only her children for four months. The baby was born on 25 October; Emma had only her thirteen year old boy to help with the delivery. The baby, a girl, was named Victory, after Queen Victoria of England. Hamblin arrived too late. When Lee returned from Moenkopi to the ferry in November 1873, he received a reassuring letter from Brigham Young that the ferry operation was important to colonizing. And he was promised a title of ownership for the ferry in Emma's name to offer support for his family. John L. Blythe, appointed to head another company into Arizona, brought with him a barge 20 x 40 feet that would hold two wagons, loads, and teams. Lee helped the Blythe company over the river. When John D. Lee returned to the settlements to get provisions in the fall, he was arrested and did not return to the ferry before his death on 23 March 1877. Emma was again left alone with her children to operate the ferry at Lonely Dell, where she remained until 1879. In 1874, only the Blythe company crossed the river to explore colonizing possibilities. The next year, James S. Brown led an exploring company deeper into the territory, but it was not until 1876 that a real colonization program was begun.



**Costs: \$2.00 per wagon, \$1.00 per horse and rider and 25 cents per head of stock. Non-Mormons paid 50% More.**

### The Johnson Years at Lee's Ferry

In 1876 Warren M. Johnson was called to operate the ferry. Four companies of fifty men each, directed by Lot Smith, Jesse O. Ballinger, George Lake and William C. Allen, responded to the call. Jacob Hamblin acted as guide. When they reached Lee's Ferry on the Colorado it was a raging torrent. The current shifted from side to side, and the surging water against the rocks caused large, dangerous whirlpools. They put three wagons and some luggage on the ferry-boat. Then they towed the boat up-stream about one mile, to afford a better chance for landing at the proper place on the other side of the river. When taking the boat around a point of rock, the water poured over the bow. Word was given to slacken the tow rope. In doing so, the rope caught in the seam of a rock, and the draft on the rope continuing, the boat was drawn under water. In a moment the rapid current swept the boat clear of its burden. Men, wagons and luggage went into the surging waters. Jacob plunged into the cold, snowy water to swim, but his right arm cramped, which caused him almost to despair of getting ashore. As a large oar passed him, he threw his arm over it to save himself from sinking. About the same time Brother L. John Nuttall caught the same oar, so Jacob thought it best to try to swim with one arm. However, he was soon able to use both and went safely to shore. Jacob ran down the river bank, got into a skiff with two others, pulled out to the head of the rapids, and saved a wagon and its contents on a small island. The other two wagons with all the valuables they contained including most of their supplies, passed over the rapids into the Grand Canyon of the Colorado. On getting together they found that Brother Lorenzo W. Roundy was missing. He was said to be a good swimmer, and it is probable he was taken with the cramps and sank at once. His body was never found. Brother Lorenzo Hatch sank deep into the river, but saved himself from drowning and was picked up by skiff. Brother Warren Johnson and another man hung to a wagon until they were picked up by the skiff, just in time to save them from going over the rapids. Bishop Lorenzo W. Roundy had been a special friend to the Lee family, especially to Billy Lee. At the time of the accident, Billy rescued Jacob Hamblin and one other, but Roundy dropped out of sight. Billy thought he saw Roundy's arm rise out of the water just as it went over the rapids. Later, Billy said that Roundy, now as a spirit, visited him, though he did not speak. He told the story in these words: My brother Ike and I were sleeping outside in a wagon bed which was sitting on two timbers. I was awakened by a groan. I looked up, and there was Roundy standing over me. I wanted Ike to see it, too, so I nudged him with my elbow and said, "Look here, Ike." I turned my glance for a second, and when I looked again, Roundy was gone. I went around, and in the house, where my mother was sleeping. She said to me, "What is the matter with you?" Then I told her what had happened, and she got up and we both searched the premises, and found no one. I went forth the next day with renewed hope of finding the body of my friend, but we never recovered it. "The Colorado River never gives up its dead." The ferryboat was not needed at one stage of the history of Lee's Ferry. A missionary party, led by Anthony W. Ivins and Erastus B. Snow, reached the river 16 January 1878, about the same time as did John W. Young and a number of prospective settlers bound for the Little Colorado. Snow recorded that the Colorado River, the Little Colorado and all the springs and watering places were frozen over. Many of the springs and tanks were entirely frozen up, so that we were compelled to melt snow and ice for our teams. We (that is J. W. Young and I), crossed our team and wagon on the ice over the Colorado. I assure you it was quite a novelty to me, to cross such a stream of water on ice; many other heavily loaded wagons did the same, some

with 2500 pounds on. One party did a very foolish trick, which resulted in the loss of an ox; they attempted to cross three head of large cattle all yoked and chained together, and one of the wheelers stepped on a chain that was dragging behind, tripped and fell, pulling his mate with him, thereby bringing such a heft on the ice that it broke through, letting the whole into the water; but the ice being sufficiently strong they could stand on it and pull them out one at a time. One got under the ice and was drowned, the live one swimming some length of time holding the dead one up by the yoke. Concerning the same trip, Mr. Ivins wrote, "The river was frozen from shore to shore, but, above and below for a short distance, the river was open and running rapidly. Great care was taken in crossing, the wagons with their loads usually pulled over by hand and the horses taken over singly. Thus the ice was cracked. Mr. Ivins recited the episode of the oxen and then explained that a herd of cattle was taken across by throwing each animal, tying its legs, and dragging it across. One man could drag a grown cow over the smooth ice. if the group remained at the river several days, crossing on the ice 32 times. In six days, all the missionaries and settlers at Navajo Springs, ready to continue the journey. It is believed that the Colorado has not frozen over since that time. Wilford Woodruff who crossed the Colorado at Lee's Ferry in 1879 on his way to visit the Arizona settlements noted, We drove to Lees Ferry and Crossed. I here left Br. Johnson who was the ferryman and at home. We then Crossed the Mountain Called Lee's Back bone which we named the Hogs Back. It was the worst hill Ridge or Mountain that I Ever attempted to Cross with a team and wagon on Earth. We had four horses on a wagon of 1,500 lb weight and for two rods we could only gain from four to twenty-four inches with all the power of the horses and two men rolling at the hind wheels and going down on the other side was still more steep rocky and sandy which would make it much worse than going up on the North side. I visited the Great Colorado for the first time in my life where I went to the River. I found it running between two Stone walls some 2,000 feet high perpendicular. The river itself looked small being such distance from the top of the Earth. Although Brigham Young advised Ephraim Hanks in 1877 to buy the ferry from Emma Lee, the plan failed to materialize because of the death of Brigham Young that same year. Emma Lee and her family remained at the ferry until 1879, when Warren Johnson, as an agent for the Church, gave Emma 100 cows, which he collected from the residents in southern Utah and northern Arizona for the ferry. Emma actually received only fourteen of the 100 cows. She took her family into Arizona to make a new life. Frank French, a non-Mormon prospector who had been in the area, helped her with the move. She married him in 1879, and after an irrigation squabble in Snowflake eventually settled in Winslow, Arizona in 1887. In Winslow Emma became known as Dr. French, for she not only practiced as a midwife, she also became recognized for her compassion; she knew how to help the sick. Much of her confidence came from the practical experience at Lonely Dell, where she spent eight years, many of them alone with only her young children. She died on 16 November 1897 in Winslow.

An eleven-year-old boy, John Hunt, described his feelings when he saw the Colorado River in 1880, as he drove his grandmother to Arizona: to look at the river running down over the rapids below the Ferry would make your blood turn cold.... Right at the Ferry the river is running still and dead. No waves to speak of unless the wind was blowing. The river is about three or four hundred yards wide. Mr. Johnson the man operating the Ferry said they went by high and low water sign. Sometimes there was a difference of thirty feet in high and low water. The high water season was from the

middle of May through June and during that time they would not operate the large boat. Warren Johnson and his family lived at Lonely Dell and operated the ferry for the Church until 1895. In the early 1880s three outlaws, Tom McCarty, Matt Warner and Josh Sweat, came to Lee's Ferry with U.S. deputy marshals in pursuit. In Mexico, they had been involved in cattle rustling, selling the stock to ranchers. They took Warren Johnson as a hostage, tied his hands and close-hobbled his feet, and left him five miles from the ferry. It took him two days of rolling and falling to make his way back home. The outlaws were finally captured. Four of the "hashknife" outfit out of Northern Arizona also crossed at the ferry and were captured near Willow Springs. Tragedy struck the Johnson family when a family, traveling from Richfield to Tuba City in 1891, exposed the Johnson children to diphtheria; a son and three daughters died and are buried at Lonely Dell. The Johnsons operated the ferry until 1895, when James Emmett took over and operated the ferry until 1909.

### Engineers, Prospectors, Celebrities and Adventures at the Ferry

Robert Brewster Stanton, chief engineer for the Denver Colorado Canyon and Pacific Railroad Survey, and his expedition celebrated July Fourth and Christmas Day of 1889 at Lee's Ferry and were treated to a meal on each occasion that would rival a meal in a modern-day restaurant. The menu included Colorado River salmon, turkey, beef, plum pudding, mince and apple pie, fresh peaches, pears, raisins and nuts, all grown at Lee 's Ferry. The railroad venture never materialize; three members of the group were drowned in the Colorado River. Stanton returned to the Colorado River and Lee's Ferry again in 1897 with the Hoskaninni Company, a gold mining venture that involved several thousand dollars that failed in 1901. It was not the last of Lee's Ferry and the Gold Rush, however, for in 1910-11 another company, the American Placer Corporation, was formed in Chicago. Charles H. Spencer was the engineer, and this company assembled the steamboat of the Colorado, the Charles H. Spencer. Launched in February 1912, it proved too large and used too much coal to be practical. It was tied up at Lee's Ferry in 1912 where its remains may be seen to this day.



Charles Spencer Boat

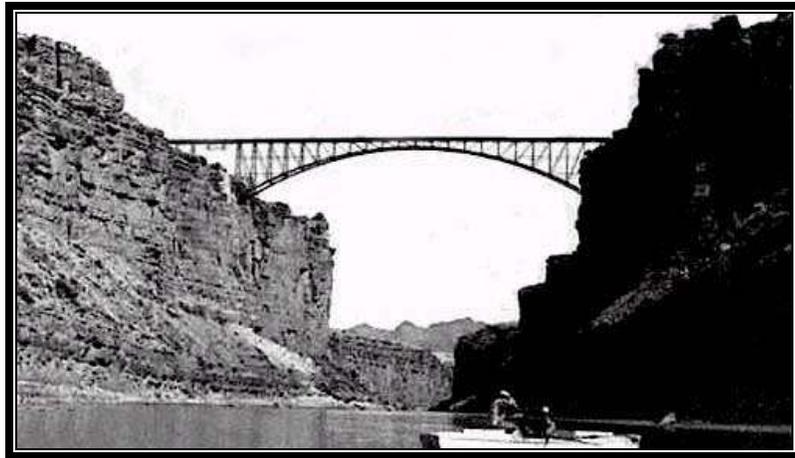
A Mormon trapper by the name of Nathaniel Galloway who worked for Stanton developed his own boat on the river. In 1897, he took George Wharton James, prominent

writer on the Indians and the Grand Canyon, from Lee's Ferry to Glen Canyon and Marble Canyon. In 1909, Galloway took Julius Stone, a coal company official and capitalist associate of Stanton, from Glen Canyon to Lee's Ferry on a pleasure trip just to explore and enjoy the river. Later, a trip was made from Green River, Wyoming to Needles, California, on the river. It was the first river trip planned and executed on such a grand scale just for love of adventure, though photography and exploration were a part of it. Such excursions have become an important recreational pursuit; many enthusiasts now have passed Lee's Ferry running the river just for fun. Zane Grey, a well-known writer of the western novel, crossed Lee's Ferry in 1907, assisted by James Emmett, his two sons, and two other men, all Mormons. The crossing was treacherous. Grey's first western novel, *The Heritage of the Desert*, published in 1910, features a location faintly reminiscent of the river at Lee's Ferry. Buffalo Bill Cody crossed Lee's Ferry in 1892. He had been in England for Queen Victoria's Jubilee as part of the American Exhibition and brought some Britons out West with him. Miss Sharlot M. Hall, Arizona Territorial Historian, visited Lee's Ferry in 1911. She wrote entertainingly of her trip, by wagon, northwest into the Arizona Strip. Much of her diary was published in 1912 in the *Arizona* magazine. Authorities of the Church sold the ferry rights in 1909 to the Grand Canyon Cattle Company, with roots in California, which grazed cattle in the famous Kiabab and on expanses to the north. A year later the property changed hands again. Coconino County bought it and operated the ferry as a public venture. In 1913 a private company contracted to run the ferry for a specified amount each year. This contract lasted only three years. The county took it over again and ran it as public property until 1929, when the Navajo Bridge was built six miles below the ferry spanning Marble Canyon.

### Summary

From the first crossing of the Colorado River in 1864 at Lee's Ferry until 1929, the ferry was the most important point on the road from Utah into Arizona, the point no one could avoid. The ferry was an absolute necessity for Mormon colonization in Arizona. One cannot help but admire the courage of John D. Lee, and especially his wife Emma, who remained at the ferry and faced the adverse conditions necessary to make a livable habitation there. Mormon interest in the ferry centers in the many events and hardships encountered in crossing the ferry and building the dugway on the other side. The Lee journals are filled with colorful events, including encounters with the Indians and the Powell expeditions. A census taken 1 January 1878 showed the total of Mormon emigrants from Utah to Arizona for the two previous years. The communities where they settled were Sunset, 136; Ballenger, 277; Allen's Camp, 76; Woodruff, 50; Moenkopi, 25—a total of 115 families and 654 people. Mormons continued to use the ferry until the Navajo Bridge was built in 1929. They were not the only ones who found the ferry useful; prospectors, engineering expeditions, and sheer adventurers visited it. With all the excursions and all the activity, the number of people who lost their lives on the river is relatively low. Of a total of fifty since 1869, twelve died at Lee's Ferry, making it the most dangerous place on the river. Of the twelve, ferry accidents claimed the lives of seven, two incidents of skiffs overturning took the lives of four, and one incident of a canoe capsizing took the life of another at the lower ferry site. Estimates in 1980 indicated that 12 000 people traveled the Colorado River passing Lee's Ferry. The legends and stories of Lonely Dell continue to be a constant reminder of this once important gateway to the pioneer Southwest.

“Events at Lee's Ferry, or Lonely Dell, 1864-1928,” Gary Anderson (Gospel Link 2001)



**Navaho Bridge**

Cleora LeBaron Covington who lived at Lonely Dell during the early 1930's.

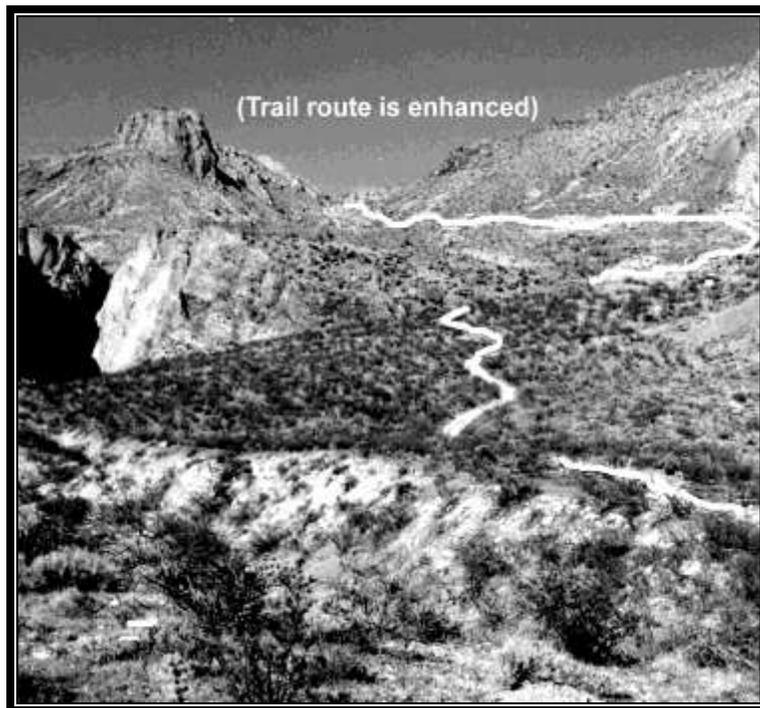
Soon after acquiring a second wife, Cleve, her father, moved his families to Mexico and was apparently doing quite well there. Probably in 1931 a foxtail became lodged in his throat and caused infection. He, incorrectly, figured he was going to die and didn't want his families stuck in Mexico, so he sold his holdings at a considerable loss and moved back. They lived three years at Lees Ferry where Cleora's childhood recollections begin. The homes and fields about a half-mile upstream along the Paria known as Lonely Dell are now owned and administered by the National Park Service. There were two other families while Cleora was there. The other children of her age-group were boys so they played boy games. One of their favorite pastimes was to slide down the red hill that forms the west wall of the little valley. Cleora might go under the grape arbor and cut out paper dolls from the Sears catalog. (Note. The family of one of the boys, Calvin Johnson, was living there while the father worked on the highway through House Rock Valley. A stone culvert they built under the road just as it descends into the valley is still in use as of May 2000) Cleora and Calvin decided to visit their fathers who were doing road work a couple of miles from the settlement. Along the way, they encountered hundreds of beautiful cactus flowers and Cleora decided to gather an armload. She didn't notice that cacti impose a price for being picked until she had a thousand tiny quills embedded in her arms and chest. A grand occasion for the children was whenever "Preachy Smith" would show up in his convertible. He would load them in and take them over to the Navaho Bridge to buy them treats at Lowry's Lodge. Cleve was suspicious of Preachy's motives and put an end to the practice. A little building served for both school and church. The teacher boarded with the LeBarons's for \$15.00 a month. The settlement needed ten students to qualify for a school and since they were a few short of that amount they pressed the four and five year-olds into service as students. It only meant that Cleora and the other "pre-schoolers" had to play quietly. The teacher took no steps to influence their minds in any way. Cleve had been excommunicated from the LDS Church while in Mexico, but that didn't diminish his enthusiasm for its teachings. (Except for the one technicality concerning polygamy) Every Monday evening it was Family Home Evening, with the main lesson usually coming from the Book of Mormon. Popcorn was the usual refreshment. "Old maids" from the popcorn feast were saved, ground and served with sugar and cream as a treat the following

morning. Indians were their main visitors; they came in the late summer to buy watermelons and other fruit. White travelers were hosted on rare occasions. Alice vented her disgust at one such group by vigorously applying her broom to a pile of refuse they left in one corner. Her mood softened when a twenty-dollar bill flew up. She managed to save a few dollars while at Lee's Ferry and bought a building lot in Hurricane. She was thinking towards the day when her children would be of high school age and wanted to live where schooling was available.

There were no dams along the Colorado River then and the water might run reasonably clear or it might roar with a muddy flood. Sometimes they could fish along the bank, usually for catfish. A memorable time for Alice was when she caught a bass. The Paria, from which they got their irrigation water, is subject to even greater extremes than the Colorado. Cleora recalls seeing it overflow its banks carrying trees along with it. Almost every time the Paria flooded, it meant disaster for the crops. It was impossible to put in a dam and canal system that would withstand the onslaught. There was nothing to do but rebuild after each flood and sometimes hand-carry water to thirsty plants. Lonely Dell offered bare survival and little more other than solitude. One man, Bob James an ex-wrestler, had moved to the area for the latter purpose. He had killed someone during a match and although not guilty of murder, was apparently uncomfortable in his former neighborhood. He built a stone house on the south side of the Colorado by Lees Ferry and moved there with his wife and son, Bobby.

### **The Honeymoon Trail**

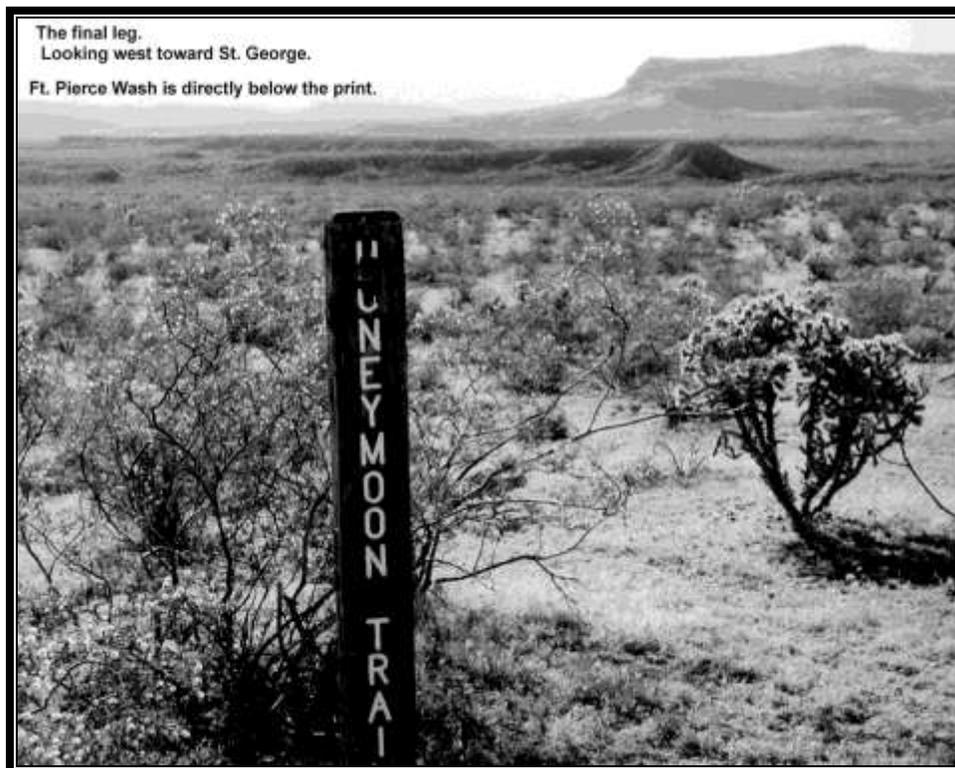
The concept of Honeymoon Trail was born in 1877 with the dedication of the St. George Temple.



Honeymoon Trail/alt Temple Trail as it climbs over the Hurricane Hill just south of the Utah Border

Young couples from as close as Orderville and Kanab and as far away as Snowflake AZ and beyond could come by buggy or wagon to be sealed. Fall and Spring were favorite times. Usually a group would travel together; some had been previously married in civil ceremonies and some were newlyweds. Chaperons accompanied when appropriate. We can assume that for most, this was the greatest event of their lives; remember, the horses knew the way home. The physical segments of the trail were already in use of course. From the Arizona villages it led to Lee's Ferry; west and south through House Rock Valley skirting the Vermillion Cliffs and finally northward. Heading almost due west over the Buckskin Mountains, it went close to present day Fredonia where it was joined by a spur from Orderville and Kanab. It proceeded on past Pipe Springs and on into Utah where it dropped down the Hurricane Hill following a natural incline. From there it followed the Fort Pierce Wash into St. George.

The first known honeymoon group that crossed the Colorado River at Lee's Ferry came from Snowflake, Arizona October 1881 under the leadership of Adolf Larson whose main objective was to marry Miss May Hunt. There were a total of five wagons on the twenty-day roundtrip journey. There may well have been couples from Kanab, Orderville, etc. that used it during the preceding three years. How long the trail was used is difficult to say. Joseph and Amelia Heaton and another marriage-impelled couple traveled it from Orderville in 1900. Arizona couples could have traveled by rail to Salt Lake by the late 1890's and by 1927 they could attend the Mesa Temple. As automobiles came into use during the early 1900's, the term "Honeymoon Trail" may have gradually faded from usage.



**Final leg of both trails.**

Some experiences along the way

Wild animals were sometimes challenging and produced fond memories of the honeymoon trip. Loretta Ellsworth Hansen and Hans Hansen, Jr., had an experience with wolves as they traveled with her brother, Frank, and his fiancée. Loretta related the experience:

One morning, way out on the desert, the boys were greasing the rear wagon, we girls, at the other washing dishes, found ourselves completely surrounded by large prairie wolves. We lost no time climbing into our wagon and the boys killed wolves as long as their ammunition lasted. It was a thrilling sight to see about fifty large wolves lined up like soldiers. At the sound of the gun they would jump back a few paces still facing us, then they would step forward again. The howling of the wounded, and the firing of guns finally frightened them away. A review of the journals reveals very few troubles with the Indians, but when hostile contact did take place, it was frightening. Avis LaVern Leavitt Rogers and George Samuel Rogers were married in January of 1896. In August 1897, they traveled to St. George by team and wagon. It was described as a hard seven-week trip. On their return trip, they had problems crossing the Colorado River due to high waters. They were eventually able to travel through Flagstaff and camped about five miles out of town in the pines. Aris Rogers told of their experience: We had had our evening meal and were prepared for bed. While we were kneeling in prayer we heard this terrible whooping and yelling and thundering of horses hooves. The temptation was just too great and I couldn't resist taking a peek. I turned my head just enough so I could look out the corner of my eye-my heart beat about three times faster than it should-three Indian braves, all painted up, were riding in on us just as hard as they could ride. How he did it, I will never know, but George not even hesitating to take a peek just kept right on praying and asking Heavenly Father to protect us from these Indians. They rode right to the wagons before they reigned up. They were so close we could almost feel the breath of the horses as they sat down on their hind legs to stop. The Indians looked in and saw George praying, they gave a whoop, whirled their horses around and left. We could hear them yelling as they rode away. Needless to say, we had a great deal to be thankful for that night.

Traveling the Honeymoon Trail: An Act of Faith and Love by H. Dean Garrett  
(Gospel Link 2001)