Saga of Three Towns

HARRISBURG
LEEDS
SILVER REEF

By
Marietta M. Mariger

To
Amy
Marietta M. Mariger.

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PREFACE

These little towns have an important part in Washington County History.

The deleting of their stories, in whole or in part, from Washington County's D.U.P. Centennial Book, "Under Dixie Sun", was regrettable and, so, for the benefit of the posterity of the pioneers of these towns, and others interested, this little book is prepared.

We hope that all who read its pages or scan its pictures will enjoy it for memories it awakens, or information it gives.

Sincerely,

Marietta M. Mariger

ACKNOWLEDGMENT

To all of the friends who have helped me in any way I give my sincere thanks.

Marietta M. Mariger

Contents

Chapter I

HARRISBURG

Sleep, Harrisburg!

Dream pleasant dreams
Of happy homes by sparkling streams,
Where pioneers beginnings made
For greater things in later age.
Thy children now more scattered are
Than were thy builders—yes by far!

Thy tired toilers, laid to rest
Upon yon eastern hillside breast,
So little knew, nor could they guess
How soon their homes to dust would fall
And in Earth's bosom would be pressed,
By strangers knowing not thy song.

Thy children! Now they all are gone
To join elsewhere with History's throng!

How few there are who now can say,
"Twas there I saw the light of day,
And in her meadows, learned to play;
And waded in those sparkling rills,
Or gathered flowers from her hills!"
But we'll remember to the last
The part you've played in our dear past!

HARRISBURG

High on the southeast slopes of Pine Valley Mountain is a beautiful grove of many kinds of trees. Among and above them, clear, cold springs, fed from the snows that fall in winter and the rains that rain in summer, gush forth. These springs are constant, and they all converge to form what some early trapper or pioneer had named Quail Creek. This dashing stream winds its way eastward a mile or two through what has come to be known as Water Canyon, which has cut its way in ages past, through the Red Reef, then, shall we say, caressingly, twines and flows southward following the course of the Red Reef. A mile or so, another stream, not so large or constant, pours also over this Red Reef, tumbling down over a red cliff in its narrow gorge. Up the sides of this waterfall over the red cliff, red men had cut toe and finger holds to save them miles of journeying in their primitive lives. This is Dick's Canyon, named for an Indian, and around the spot where these two streams joined, the Red Men planted corn and squash before the advent of the White Men.

The streams continue on, curving to the eastward, and, at the head of another canyon which you and I know as Harrisburg Canyon, join with another stream from the same blue Pine Valley Mountain. This is the Cotton Wood Creek, and now the three streams joined together, flow through this third canyon another four miles to where the canyon widens out, and there they mingle their sparkling water with the not so sparkling Rio Virgin.

It was where Quail and Cottonwood Creeks join the Rio Virgin that Moses Harris halted his family in the spring of 1859 and founded a home. He had come from San Bernardino, California the fall before and had wintered in Washington. Other families joined him and improvements were made, but soon an accidental fire occurred, wiping them out. Discouraged, some of the settlers moved to Minersville, in Beaver County, but later that same year the sons of Moses Harris returned to this site he had selected, and the little town of Harrisville was born with Silas Harris, son of Moses Harris, appointed to preside over this branch of the Washington Ward. Nine families resided there in 1860. In the spring of 1861 they moved a little farther up on Quail Creek with the approval of Bishop Robert D. Covington, of Washington. Besides Moses Harris' family and his son's families, James Lewis and Hosea Stout with their families had settled. In the spring of 1862 William Leany ,John Brimhall, William Robb, Allen J. Stout, Priddy Meeks, Orson Adams, John Adams, Samuel Hamilton and Elijah Knapp Fuller had joined the settlement, bringing their families, 41 souls in all. Apostles Orson Pratt and Erastus Snow met with the people at the home of Moses Harris and organized them into a branch of the church, making the name of Harrisburg official. James Lewis was made president with Moses Harris and Hosea Stout as counselors. William Leany and John Brimhall were appointed teachers and William Leany was made water-master.

In July 1862 Rufus Allen, his family and others to the number of 17, moved to Harrisburg joining the branch organization. On August 24th Hosea Stout had been called to live in St. George, and Mosiah L. Hancock became a counselor in his stead. In the spring of 1862 Harrisburg had but one house, the home of Moses Harris.

In December 1862 Willard G. McMullin, his two wives and their children moved into the settlement. During the winter of '62-'63 others moved in, bringing the number of families up to 20. Family heads not already mentioned were Samuel Gould, John Newton, David Ellsworth, John McCleve, Allen Taylor and his son, William Taylor.

In the fall of '63 Apostles Pratt and Snow again met with the Saints. James Lewis was honorably released as Presiding Elder. Silas Harris replaced him, with Milton Daily and Mosiah L. Hancock as counselors. William Stirling, a Scotch convert who resided with the William Leany family, was made Branch Clerk.

In May of 1864 there were 16 families and 128 souls residing in Harrisburg. The town was on the trade route of freighters who freighted to California via Las Vegas, Nevada from Utah, and also connecting with the California freighters were others who freighted (no doubt in relays) clear to St Louis, Missouri. Some of the freighters found it convenient to live in Harrisburg; However, it tended to give the town a somewhat shifting population, as these freighters' families had occasion to change their locations now and then. It was in this year that the people met and decided to build a church and, school house combined, appointing E. K. Fuller to take charge of the enterprise. At this time (May 1864) the people had planted six acres of wheat, ten of corn, five of sorghum cane, eight with cotton and % of an acre of alfalfa. A Sunday School was organized with Mosiah L. Hancock, Superintendent

Our father has told us of a small forest of pinon pine that grew in the little valley where

Quail Creek flowed. He said it was the most beautiful grove of those trees he had ever seen any place. It soon fell victim to the white man's axe, as it furnished a convenient supply of fuel.

Seeing it disappear from the earth must have caused the Red Men great anguish.

He also told of the beautiful growth of juniper, which we usually called cedar, that covered the ground above Silver Reef, where the town grew up, and on down between the White Reef and the Buckeye Reef.

He said the young men would walk up from Harrisburg to cut fence posts. They came in the morning, carrying their lunches, worked all day, and walked home in the evening. He and his brother, Brigham, were the best choppers, a day's work for him being the cutting and trimming of three hundred posts.

By the end of 1865 other homes had been built, and the church building was completed. It was 18x30 feet and cost $800.00. Meetings and schools were held in private homes or boweries prior to its completion. In 1866 the town was again a part of the Washington Ward. Silas Harris ceased to be Presiding Elder. Three teachers were chosen to manage affairs under the Washington Bishopric. Indian troubles threatened but no raids were made at that time. There were now 25 families and a day school, taught by Brother Henry E. Harrington, boasted 60 pupils. A Sunday School, with a membership of 70, was flourishing. Orchards and vineyards had been planted and a new dam had been built The waters of Quail Creek were diverted from their

natural channel at a point 2 miles above where Silver Reef later grew up. The ditch passed through what became the town of Silver Reef, on down in front of the "White Reef," passed farming land later known as the Connaly field, and into Harrisburg. There were probably 35 to 40 acres of farming land in Harrisburg and every little plot of ground large enough to be gardened up Harrisburg Canyon was fanned. Orson Adams and Samuel Hamilton - possibly others - had farms up the valley above Harrisburg. They planted wheat in early spring. If the grasshoppers ate it they planted cane and corn. Life was hard, yes, very hard.

Some names of heads of families in early Harrisburg History are: Moses Harris, John S. Harris, Silas Harris, James Lewis, Hosea Stout, William Leany, William Stirling, John Brimhall, William Robb, Allen Stout, Priddy Meeks, Samuel Hamilton, Orson Adams, John Adams, Elijah K. Fuller, Willys D. Fuller, Revilo Fuller, Neal Fuller, Rufus Allen, Mosiah L. Hancock, Willard G. McMullin, Samuel Gould, Milton Daily, Thomas Adair, Wilbur Earl, John Newton, David Ellsworth, Ephraim Ellsworth, Henry E. Harrington, Al Carpenter, Perome Asa, John McCleve, Allen Taylor, Robert Richardson, Frank Owens , Wilson Daily-first blacksmith, and Alfred Randall.

About seven of those men were Mormon Battalion men who had returned from California.

Many of the people settling Harrisburg were educated, and were artisans of different trades. Priddy Meeks was self educated and was the doctor of the community. He had served in this capacity even in the states before coming west He was fairly wealthy for his time, and brought to Harrisburg fifteen head of as good horses as were in the territory and quite a herd of cattle, his family usually milking six to eight cows. All of the settlers who expected to be permanent had a few cattle and all had teams and wagons. William Leany owned herds of sheep in Iron County. He also owned bees and sold honey. He worked at carpentry.

E. K. Fuller was an artisan and builder. He and some of his sons were freighters, as was John Adams at times.

Willard G. McMullin was a stone mason and was able to teach some of his sons his trade. His third son, David, became a blacksmith. His younger sons were miners or worked with livestock. The wives of these men were expert spinners and weavers and made their own soap and candles. I have seen cloth and bedspreads my own mother (daughter of William and Elizabeth S. Leany) made, and she had carded, spun and woven the materials herself. At the ages of 16 and 14 she and her chum, Susann Adams, made themselves each a bedspread under instruction of Mrs. Orson Adams.

The homes were mostly rock houses in the old Colonial style, very well built and comfortable. The town boasted at least three two-story houses, one belonging to W. G. McMullin, one to Neal Fuller.

They worked hard. Never did so small an amount of land have to help support so many. However, the stock raising and freighting business became big items in their support There were

some Indian Raids when their cattle were driven off. In later years the Federal Government reimbursed them some for losses. I know of my grandparents receiving money twice for these "Indian depredations," as they were called.

William Stirling was energetic and ambitious and did all sorts of work, as of course all pioneers did. He was quite an entertainer, and at dances and parties at home and in Washington, he often sang and danced. His singing at such times was usually Scotch songs sung in dialect, often accompanied with dancing. Some of these songs were "Mither, Mend Me Ould Breeks" "When I Was Twenty-one," "Annie Laurie," "Coming Thru The Rye," and "Flow Gently Sweet Afton."

The Fuller Family, the Adams' and the Harris' were the ones who raised the most cattle. W. G. McMullin did mason work in the towns here, and in the early '70's took his older boys out to a mining camp, Pioche, Nevada, where they did mason work. They also took contracts and cut cord wood. He had worked one year on the St. George Temple.

Most of the families were large, and they practiced for amusement, along with their church services, and their dances, thrifty pastimes such as rag bees, quilting bees, husking and harvesting bees, singing schools, spelling matches, and athletic games. And of course there were weddings and here are a few of those unions:

William Stirling-Sarah Ann Leany, 1865; Samuel Hamilton (2nd wife)-Lucy Fuller; John Adams-Jane Averett of Washington; William Harris-Susann Adams; William Leany, Jr.-Harriet Ellen Fuller; David Leany-Elnora Earl; Ira McMullin-Helen Elizabeth Leany; Brigham Y. McMullin-Ada Parker of Washington; David McMullin-Caroline Parker of Washington; John S. Harris, Jr.-Marietta Leany; Isaiah Cox of St. George-Abbie McMullin; William Sullivan of St. George-Mary Ann McMullin; Eli McMullin-Phoebe Angell of Leeds; Samuel Robb-Amanda Daily.

Many of these early marriages were performed locally. Some couples, however, made the long wagon journey clear to Salt Lake City to be married in the old Endowment House where marriages were solemnized, as in the temples built later.

The town was settled by so many men who were of the rugged pioneer type, and from so many sections of the United States, as well as some from European countries, and from so many walks in life, that they found it very difficult to live together in harmony. There were too many adapted for leadership, and too few who made good followers, I suppose. At any rate, they seemed to have lots of dissentions among themselves, and not too much toleration and cooperation. Bishop Covington of Washington, who often conducted a Bishop's Court to settle some dispute, was often at his wits end.

The Black Hawk War affected the town. Men served under Colonel J. D. L. Pearce of Washington, and Colonel James Andrus of St. George, and guards were posted at all vantage points, or look-outs. The men and boys were all taken for this work, at times, their wives and daughters having to take over the gardens, fields, and cattle tending. John Adams of James

Andrus' Company did valiant work as a scout and guide, and on occasions saved many lives by his work as scout and messenger. It was while acting as a guard that Ira McMullin found the hot sulphur springs on the Rio Virgin near the present day town of La Verkin. He did not understand legal procedure to protect his find, and its ownership passed on to others.

In 1866 a meeting was held attended by Bishop Covington of Washington. The organization was changed. Instead of Presiding Elder and Counselors, three teachers were chosen to manage ecclesiastical affairs. James Lewis, Mosiah L. Hancock and Thomas Adair were the ones selected.

In November 1869 Elder Orson B. Adams became Presiding Elder of Harrisburg with Willard G. McMullin and Milton Daily as teachers, or counselors.

On March 17, 1874, President Brigham Young, George A. Smith, and John W. Young met with the town, and Elder Willys D. Fuller, eldest son of E. K. Fuller, was made Bishop of Leeds and Harrisburg. He was first ordained a High Priest. President George A. Smith was mouth in the ordination, Brigham Young and John W. Young laying on hands with him. The two towns were made part of the Toquerville Ward. On April 19, 1874, one month later, Elders Robert Gardner, D. D. McArthur, James W. Nixon, James G. Bleak, and Richard Bentley of St. George visited a meeting at Harrisburg and organized the Leeds Ward United Order, Willys D. Fuller, President; Richard Ashby and Milton Daily as Vice-President, Revilo Fuller, secretary; William Stirling as Assistant Secretary, and Orson B. Adams as Treasurer. It does not seem to have done anything.

The same brethren went to Toquerville and held a meeting, and on Monday morning a meeting was held with all officers of the United Order.

In 1876 Goudy Hogan was made Bishop of Leeds to succeed Willys D. Fuller who was moving to Arizona. Milton Daily was chosen Presiding Elder of Harrisburg, which office he held until he, too, moved to Arizona in 1878.

Orson B. Adams succeeded him as Presiding Elder, and he held the position until 1891, when meetings in Harrisburg were discontinued and the people were instructed or invited to attend meetings in Leeds.

SUNDAY SCHOOLS OF HARRISBURG

A Sunday School was organized in 1864 with Mosiah L. Hancock as Superintendent In 1866 there were 70 members enrolled. Milton Daily was made Superintendent in 1868. Elder Henry E. Harrington followed in 1870, and acted in this capacity for five years. He was succeeded in 1875 by Brigham Y. McMullin. In 1879 Brigham Y. McMullin moved to Leeds, and E. K. Fuller took his place in the Sunday School organization. No further records are available until 1887 when Hyrum Leany was acting as Superintendent, and his wife, Mary M.

Woodbury Leany was Secretary. Isaiah Cox was Assistant Superintendent until 1892, when he moved to St. George.

A new comer in town, Job T. Smith, became Superintendent in 1895 with Hyrum Leany as Assistant Later Mr. Smith moved to Leeds, and in 1899 Miss Mary Leany became Superintendent with another new comer, Alfred Barlocker, 1st Assistant and Lorin J. Harris as 2nd Assistant with Elizabeth Etta Harris, Secretary. This was the last Sunday School.

There never seems to have been any M.I.A. organizations, as we have no records of any.

PRIMARY

Primary was organized in 1895 with Mary Margaret W. Leany as President, Miss Bertha Barlocker, 1st counselor, and Miss Marietta Harris, 2nd counselor. Miss Elizabeth Leany was Secretary. It continued until 1905 and was then disorganized.

RELIEF SOCIETY

A Relief Society was organized in 1877 with Mrs. Ellen E. Fuller as President, Mrs. Elizabeth Leany as 1st counselor, and Ann Newton, 2nd counselor. It was reorganized in 1883 with Mrs. Elizabeth Leany as President, Mrs. Susann Adams, 1st counselor, and Ann Newton as 2nd counselor, with Harriett Ellen Fuller Leany as Secretary. The last recorded minute of a Relief Society in Harrisburg was under date of August 23, 1891. Soon after, it ceased to exist This Relief Society organized a Cooperative Store the year the Society was organized with a capital of $1000.00. In its first shipment of freight were three large mirrors. William Leany purchased one of them, which I still own. Silas Harris and W. G. McMullin purchased the others.

Missionaries set apart in Harrisburg that there are records of:

Willys D. Fuller, called to go to the Holy Land. Set apart October 14, 1872. He only went as far as New York.

William Leany, Sr. and his son, Hyrum, set apart January, 1879, for a mission to the Southern States. It was to gather, or collect genealogy and to visit and preach to their own relatives. They only stayed a few months, but had good visits and seemed to make many friends. They visited William's brother, Joseph in Texas. He tried to persuade 25-year-old Hyrum to stay and be his heir, but Hyrum preferred to return to Utah. His uncle was not a Latter-day Saint.

They also visited in Kentucky, then went on to Indiana and visited with William's wife's relatives.

It was a wonderful trip from start to finish for young Hyrum. First they traveled with a freighter to York, Utah (Nephi, to us). Then they could go the rest of the way by rail. At St.

Louis they crossed over the Mississippi River on a newly constructed steel bridge that had cost $10,000,000. It was William Leany's second visit to his beloved Kentucky since he left it to go to Nauvoo in 1842.

Priddy Meeks moved with some of the members of his family to Orderville in 1877. He joined the Orderville United Order. He had been one to explore the Orderville country in 1852, and died there October 17, 1886, at the age of 91.

Willard G. McMullin died in Harrisburg, 1884. His wife, Martha, having died many years before. William Leany and his wife Elizabeth died in Harrisburg. John Newton and his wife died in Harrisburg. Samuel Hamilton died in Harrisburg. His wife, Margaret J. Meeks Hamilton, died in Cedar City. Susann Adams died in Harrisburg. Orson B. Adams died in Leeds. Elijah K. Fuller and his wife, Alice, died in Leeds. William Stirling, Brigham, Ira, and David McMullin and their wives, all died in Leeds. Wr. and Susann Harris are also buried in Leeds.

One by one, they went to their reward. Most of those who came to Harrisburg in the 50's, 60's, or 70's moved to other states, or localities, so we know little of them. However, there is one historical coincidence worth noting.

Orson B. Adams, his wife and step-son, John Adams, left Nauvoo in 1846, at about the same time Priddy Meeks did. Orson Adams and his wife joined the Mormon Battalion and left John Adams to come with Priddy Meeks. (Susann Smith Adams was a step-daughter of Priddy Meeks). William Leany and wife left Nauvoo in 1846.

Priddy Meeks and family, and William Leany and wife, and infant daughter crossed the plains in the 2nd company of Pioneers, reaching Salt Lake City September, 1847. Orson Adams and wife returned to Salt Lake in time to be pioneers to Parowan in 1851, with Priddy Meeks and his family, and William Leany and his family.

Margaret Jane Meeks married Samuel Hamilton in Parowan in 1857. And in 1862, Orson Adams and family, Priddy Meeks and family, William Leany and family, Samuel Hamilton and family were all pioneers to Harrisburg.

John Adams married Jane Averett of Washington and was a first in the settlement of Leeds. Later he went to Washington. His three small daughters were brought up by Orson and Susann Adams, in Harrisburg. Later he married Mary Adair, and they had twelve children, and were living in Harrisburg during the 90's, and he freighted from Southern Utah to Pioche, Nevada. From Harrisburg they moved to Panguitch. He died when past 90 years old.

His second daughter, Sarah Jane, married Marion E. Paris, who came to Utah from Texas in 1883. They lived in Harrisburg until 1895, when they moved to Leeds with their three daughters, one of whom stills lives in Leeds. She is Mrs. Dallice Hartman.

Eli McMullin was the last McMullin to live in Harrisburg. He moved his family to Leeds also, in 1895. Later he moved to Idaho, where his widow and living children now reside.

Oscar McMullin, age 80, of Leeds, and Frank McMullin, age 78, of Randlett are the living children of W. G. McMullin, (as of 1948)

Franklin S. Hamilton is the only survivor of the Hamilton family of five children of which he was oldest He is nearly 93 and resides in Parowan. (1951)

Elijah K. Fuller had six wives and thirty-two children, sixteen sons and sixteen daughters. His youngest son, Donald lives in Leeds. His youngest daughter, 66, lives in Arizona. Two other daughters are still living.

Mr. and Mrs. Jerry Deady and their family was one of the last families to live in Harrisburg. After the death of her husband, Mrs. Deady moved away. Her oldest daughter, Margaret Pace, married Francis Hartley of Leeds. They lived in Harrisburg for a few years, but now live in Leeds.

William Emett and family were for years, the only family in Harrisburg. After Mr. Emett died in 1945 his wife sold her Harrisburg property and took her children to St George to live.

Most of the town site is now the property of Dr. P. S. Arnold, another new citizen in our town of Leeds.

Roy Grant of New Harmony uses some of the land for cattle grazing, and is there occasionally. It is indeed a ghost town, with ruins of the once nice homes littering the landscape.

In 1883 William Leany, Jr. and family, David Leany and family, and John Harris and family, moved from Harrisburg to Luna, New Mexico, just over the State line from the White Mountains in east central Arizona. It will be recalled that John's wife was Marietta Leany, sister of William and David. Hyrum also went with them, but decided not to remain.

The three large families all journeyed back to Harrisburg in their covered wagons in 1890, when their father, William Leany, was in his last illness. After his death in February, 1891, William and David and their families, made the long trek back, but the Harris family remained in Harrisburg.

Later, however, John and two of the older boys moved to Arizona. Walter still lives at Clay Springs, Arizona.

Marietta and eight of the Harris children lived in Harrisburg or Leeds until they moved to the newly opened up Uinta country, and established themselves. Etta, the oldest daughter of the Harris family, had married Frank McMullin, youngest son of Willard Glover. They, too, eventually moved up to the same region, and they and their families and Etta's brothers and sisters, all live in northern Utah. The mother died at Randlett in her 89th year. Frank McMullin is now in his eighties. Leanys and Leany connections are well scattered over Utah, New Mexico, Arizona, and California; but we have a Leany family organization and hold reunions and maintain contacts.

A PIONEER HOME IN HARRISBURG

If ever a pioneer home was built that filled the requirements of a paradise on earth to grandchildren, it was my mother's parents' home in old Harrisburg.

As one entered the front, gate, a row of great smooth flag stones beckoned one on to the house. But one had to stop and look at the two neat plots of lawn that were on either side of the path, each with an immense mulberry tree in one corner. Arrived at the front door, one entered a large rock room carpeted with a Brussels or "States" carpet, (as my grandmother called it) and furnished as comfortable with rockers, sofa, center table, a hanging book case, what-nots, bric-a-brack, etc., as any modern home. Another great stone room opened from this, this two being the front of the house. Either room had a door to the back opening to a ¾ enclosed screen porch, on one side of which was a bed room, on the other, the kitchen. This house was so immaculate the fairies themselves must have been busy little people while the family slept.

At the back door, one went down a flight of about five steps, across a clean hard yard, into a grape arbor, or "bowery". Here was a table, a sunken water box half filled with water where floated pans of milk, each snugly covered with a fitted cloth cover, and the whole box was also covered from falling dirt, but had little ventilator openings. The milk and butter were always cold and clean and tempting.

The barrel of drinking water with its outside wrapped in many thickness of burlap, always kept wet, was covered and cool, and a gourd dipper or two were hung from convenient pegs.

The land sloped down from the house toward the Harrisburg Creek (Quail Creek, of course), and all animal quarters were below, and a good distance from the house. There was a large cellar beneath the house, and a smoke house for curing the family meats was off a short distance to one side.

And there were orchards, a vineyard, willow patches filled with wild grapes, alfalfa fields, and a garden plot; all like the house, perfectly kept.

Flower gardens too, and hospitality, and plenty of home grown foods, that bespoke of thrift, industry, and a great "know how" of a fine old home that I regard now as a luxury even to have known.

Little Ann Newton from England who could never see the difference between w'eat, and W'eat, whose children and husband had all preceded her to that silent village on the hill side, died in the early nineties.

No more could we go with our mother on Sunday afternoons to visit that gentle soul, and gather the little dry sticks and twigs and tie each handful together in the European style, for her

kindling wood, one for each day of the week to follow. Our reward would be one of her tiny pies baked in the tiny tins in her tiny oven.

Nor ever again would we sit in that tiny neat cottage, and gaze at all her bric-a-brac brought from England, or the knitted and crocheted tidies, (I still have one of the knitted ones) or the tiny kerosene lamp, also from England. This latter she had given to my oldest sister, to be hers when the owner died, and which is still a treasured keep sake in my sister's family.

She and Mary Ann McMullin, the English wife of W. G. McMullin, used to go out to Bellvue, now Pintura, to visit with the family of Jacob Gates.

No more gentle, refined people lived than some of those grand old souls who settled Harrisburg, in spite of the hardships they endured in opening up this great West of ours.

AN EARLY HARRISBURG WEDDING

The marriages of those early days were solemnized at home, or the bridal couple journeyed with team and Wagon over the long miles to Salt Lake City, to be married in the "Endownment House" prior to the completion of the St. George Temple.

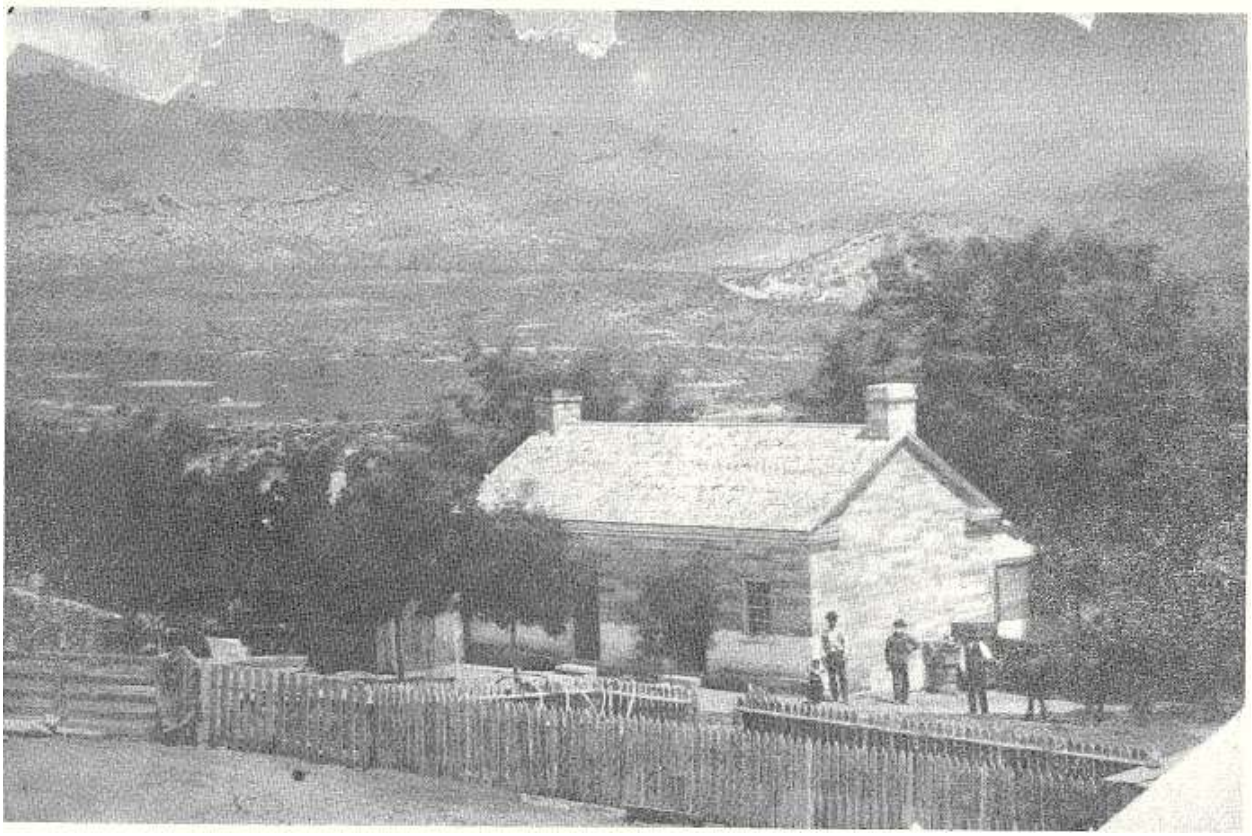
And 'twas thus that Ira Spaulding McMullin, second son of Willard G. McMullin, took his sweetheart, Helen Elizabeth Leany, to Salt Lake to be married in 1874. They were accompanied by Helen's sister, Marietta, and at a later date Helen accompanied Marietta and her sweetheart, John Harris, on the same happy errand.

My father was proud of the money he had earned by cutting cordwood out at Pioche, Nevada, and he bought his bride many beautiful sparkling glass dishes for his wedding present to her. One of these, an oval-shaped bread plate is still in the family.

The highlight of the trip was going to the Salt Lake Theater to see Edwin Booth and his Shakespearian players in "Taming of the Shrew."

Five dollars each was the price of the tickets, and before they entered the Theater they could have sold them for ten times that amount.

William Stirling assisted his parents to come from Scotland. They lived in Leeds, where George Olsen now lives, running a boarding house for miners in the days when Silver Reef was getting going. There were four daughters in the family and one of them married Pete McKelvee who had come with Barbee in 1875. The father sleeps in the Leeds cemetery, but the other members of the family went to Salt Lake City to live.



Home of Orson Adams in Harrisburg. Man with beard Orson Adams. Farming land and the Reefs that made Silver Reef famous in background. Taken in late 1870's or early 1880's. Only house still habitable in the old ghost town.

Alonzo Harris and William Harris, grandsons of Moses Harris, and their wives Charlotte Hogan Harris, Susann Adams Harris. Susan grew up in Orson Adams home—his daughter.

Libbie L. Cox, Frank McMullin, now 80, and last of W. G. McMullin's children, Wilford Cox, Loren Harris, and Etta Harris McMullin, last two are great grandchildren of Moses Harris.

Sadie Adams Paris and Lucinda Adams Alexander, grandchildren by adoption of Orson Adams grew up in his home.

Leonard Harris, also great grandson of Moses Harris and William Leany.

Dorothy Emett, one of youngest of large Emett family, last one to live in Harrisburg, and 3rd generations to grow up in Orson Adams Home.

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Harrisburg's Old Church

Willard G. McMullin Martha Richards

Came to Harrisburg December 1862

William Leany Elizabeth Scearce

Came to Harrisburg spring of 1862 from Parowan

Margaret J Hamilton, daughter of Priddy Meeks, came to Harrisburg, spring of 1862 from Parowan or Hamilton's Fort.

Alice Fuller, wife of E. K. Fuller, and mother of eight of his 23 children, four of whom are still living.

Susan, Sandra and Stanley Thompson, great-great grandchildren of William and Elizabeth Leany. These triplets live in Luna, New Mexico and attended Leany Family Reunion Sept 1950 in Arizona. Age 14½ months.

Hyrum Leany, his wife, and family of Harrisburg, later St. George where he died in his 93rd year.

David Leany, his wife , and part of his family of Harrisburg and Clifton, Arizona.

Chapter II

LEEDS

Leeds

You're such a darling little spot
Astride this great high way!
You're such a tiny little speck,
But we know you're here to stay.

Travelers never sense your being
In among the brush and rock,
Till the view is spread before them,
Coming, almost, with a shock—
And they see a verdant spot.
Filled with trees, and fields, and flowers.
That has shoved the Deseret back--
See this bit of Paradise,
That breaks the barren, ugly track!

Then, they notice homes and orchards,
May e'en not a falf's sad bawl;
Also not the tiny village,
With its stream so cool and clear,
An children playing 'bout the strees
Without a thought of fear.

Then they paused and ask, in wide eyed wonder,
"What are you doing here?"
We may answer, "Oh, just living in homes
Our fathers built a hundred years ago, - or near -
When Pioneers went seeking some ten acres
Each to find,
And a little stream of water that could make
The Desert kind.

They found this spot, and here did stop
And we have stayed here, too.
We've seen towns grow and disappear--
Just vanish from the earth--
But we're not doing things like that!
We know hard work, yet we know mirth,
And we'll keep going for our worth.

So, come and sit beneath our vine,
Eat our fruit, and taste our wine;
Jump in your car and speed away,
But you'll be back again someday."

Leeds is a pretty town situated on US Highway 91, in a little valley originally called Road Valley. Time was, in early Utah History that freight moved slowly, painfully, from St. Louis, Missouri and other mid-western points to Utah, and on to Southern Nevada and California by lines of freight wagons, whose drives were known as freighters. Certain places along the route became way-stations, where freighters and other travelers found camping facilities and protection from hostile savages. Cove Fort in Millard County was one such station. It being a walled enclosure with a deep well, camp rooms, store rooms, and a store.

As noted before, Harrisburg was on way-station, and many of the freighters' families lived there. Northeast of Harrisburg about 2½ miles was a little valley running neither north and south or east and west. It was called Road Valley and was a welcome place to the freighters, as it was neither a sand patch nor a bed of boulders.

Soon after the completion of the Harrisburg-Quail Creek Dam in 1866, some of the settlers told Erastus Snow that the Quail Creek water could be diverted into Road Valley even easier than for it to go on to Harrisburg. He counseled the people to move up to Road Valley then, and make their homes there. All of the people did not approve, but many did, and , in 1867 one hundred and twenty acres of land was surveyed into lots, and those who, wished to move could transfer their water to Road Valley by relinquishing their right to land in Harrisburg, and by fencing the allotted land in Leeds. It was also agreed that all surplus waters flowing down the original Quail Creek channel would belong to the town of Harrisburg.

Richard Ashby and John S Harris lived in tents in the new town site that winter. The following spring Mr. Ashby built a cabin, the first in the town. His daughter, Kate, was born there, the first white child born in the town, which was organized December 1 1867, with Benjamin Stringham as presiding Elder. They called the town Bennington in his honor.

In May 1868 Alma T Angell, Solomon Angell, Silas Harris, William Stirling, Elijah Thomas, Charles Connally moved in. Elijah K Fuller became a counselor to Bishop Stringham and Milton Dailey and Henry E Harrington were teachers for Harrisburg and William E Jones for Bennington. That fall a Sunday School was organized with Adam Seegmiller as superintendent.

A school house built of cedar post and pine slabs seems to have been one of the first buildings, and the Dixie College Year Book for 1928 (page 11) give Helen Leany and Charles Connally as the first teachers.

Brigham Young owned a three and one half acre water right, and maintained a home for his wife Harriet here. She was one of the first school teachers in the new town, and her son, Oscar, was its first blacksmith.

In May 1869 a meeting was held in the school house. Erastus Snow, Jacob Gates (who early settled Bellevue, now known as Pintura) and Bishop Robert Covington of Washington were present. James Lewis of Harrisburg and Adam Seegmiller of Bennington were sustained counselors to Bishop Stringham. At the Bishop's request the town was renamed Leeds, after Leeds, England where Bishop Stringham has served as a missionary. But another change was

soon made. Leeds and Harrisburg were made parts of the Toquerville Ward with Orson Adams presiding Elder at Harrisburg and Solomon Angell at Leeds. Then, on July 19 1869, these men were released as their work took them away from the town a lot, and James Lewis was put in charge of the Ward. Adam Seegmiller was replaced in the Sunday School by Charles House. These organizational matters are very confusing. Leeds was first part of Harrisburg, which was part of Washington Ward, then they were put in Toquerville. Finally the town towns wer reorganized as the Harrisburg Ward with Willys D Fuller as Bishop. Willys D Fuller moved to Arizona and the change was made with Goudy Hogan being Bishop of Leeds Ward, and Harrisburg mad an appendage to Leeds. It remained that way until Harrisburg ceased to exist. This was in 1876, centennial year.

This year the Leeds Relief Society was organized with Elizabeth Pixton as President. Its meetings were held b once a month at first, then twice a month and finally once a week, as now. All of the meetings were work meetings. It voted in its member then as now, and the Leeds Ward Relief Society has been active, successful organization from then until now. It has seen eleven presidents in 72 years. Strangely, it was organized one year before the Harrisburg Relief Society.

In 1875 Leeds had started to build a stone meeting and school house combined. Its dimensions were 23 x 36 ft. It was completed in 1878.

While these things were transpiring rich silver deposits had been found in various white sand stone hills round about, and William Tecumseh Barbee was bush (with others), developing Silver Reef. Priddy Meeks writes that two of his sons were gainfully employed by Mr. Barbee for about two years, and found him a pleasant person to work for. Miners flocked into the new camp, creating a market for all that could be raised in Leeds, Harrisburg, and many of the other towns. The very early peaches and apples sold for five cents each, rather than by the pound.

The people of Leeds had suffered many hardships from crop losses due to grasshoppers and other insect marauders. Now with vineyards producing abundantly, the making of wine was encouraged. This brought ready sale at Silver Reef, and good money to the producers.

In 1877 (September) Goudy Hogan resigned as Bishop of Leeds, his resignation effective in December, he and his family, Priddy Meeks and family, and others moved to Orderville and joined the Orderville United Order. George H. Crosby was made Bishop of Leeds.

At this time the ward had 38 families and 178 souls. Most of the families lived in Harrisburg, where about 40 acres of land was being farmed, while 86 acres were farmed in Leeds, 32 acres in orchard and the balance diversified, with alfalfa leading. (There was some cotton.)

Bishop Crosby's counselors were Joseph T. Wilkinson, and Alma T. Angell. Alma T. moved to Arizona in 1878 and Brigham Y. McMullin was selected in his stead. Alma Angell returned to Leeds in a few years.

In April 1892 Elder Andrew Jensen visited Dixie in the interest of Historical data. After a meeting held here April 18th he wrote: "After visiting the Washington Dam, I continued my journey via Harrisburg to Leeds. Harrisburg is almost a town of the past. All of the inhabitants, except half a dozen families have moved away, but most of these have located at Leeds 2½ miles away. Leeds has a pleasant situation, and is also a prosperous place from a financial point of view. The people there are perhaps better off as a whole than any of their Dixie neighbors, which is owing, no doubt, to the close proximity of their town to the mining camp of Silver Reef, situated over a ridge northward about one and one half miles."

"But Silver Reef, like most Utah mining camps, has apparently seen its best days. The mills have all closed but one or two which make an occasional run whenever a sufficient quantity of ore is gotten out for this purpose by the few miners and proprietors who still linger around the camp. The numerous business houses and dwelling which once constituted a part of this prosperous camp are now being hauled away, principally to Leeds, where the people are using the material in the construction of barns, stables, coops, etc. The Leeds Ward embracing Harrisburg number two hundred and thirty-eight souls of 30 families of Saints, presided over by Bishop Brigham Y. McMullin, who was set apart to preside over Leeds at a quarterly conference in St George 1886, George H Crosby having moved to Arizona. William Leatham and Richard Ashby are his counselors."

Leeds, like Harrisburg, has had a varying population, people moving in and out. Many who were called to Dixie to settle seem to have move on to what seemed better locations, or have returned to where they came from, as did the Pixtons. The ones who moved here from Harrisburg seem to be the ones who had stayed. Some of these are William Stirling family, Brigham Y. McMullin, Ira S. McMullin, David McMullin, William Harris, Silas Harris, Elijah K Fuller (with his 6th wife and family), John Adams, and Mosiah L. Hancock move to Leeds and established homes and planted orchards. However, even some of these have moved. David McMullin live on Mosiah L. Hancock's lot. John Adams sold his lot and vineyard to Ira McMullin. Solomon Angell and his son, Alma, built homes, lived, and died here. George, the son of Alma, married Rebecca Ann Wilkinson. George is dead, but "Aunt Beckie", now 84, still live in the brick home that had been her father's.

The Hartley family, some of whom still are here, moved to Leeds from a ranch up on the foot hills of Pine Valley Mountain.

Oscar McMullin married Miranda McArthur, a daughter of D. D. McArthur. Two of their six children have homes in Leeds still. Oscar had followed mining, ore hauling, and farming. He will soon be 80 years old and is still with us. He tells me his English mother, Mary Ann McMullin, and Ann Newton used to go out to Pintura to visit the Jacob Gates home.

A stone residence build for himself by Alma Angell was occupied in turn by George H. Crosby, William Leatham, Oscar McMullin, Margaret Jane Meeks Hamilton, then purchased by William D Sullivan how lived there until 1946, when he died at the age of 86.

Charles Wilkinson, a convert from England, came here in 1875. He had an agency for the Fish Wagons and Carriages, was a wheelwright by trade, and did much repair work while he was able to. He and William Stirling lived one block apart on the east side of the street. They bought brick made in Kanarra, hired the same workmen, Worthens' of St. George, and had homes build alike. The old houses are still standing, each occupied by members of the original owner's families (though they may show some remodeling).

Charles Wilkinson went to England on a genealogical and visiting mission in April of 1881 and returned July 1881. Soon after, he went into the Mercantile business, but died in 1890. His son, Joseph moved to Cedar City. His old store building was our social hall for many years.

John Wilkinson, a nephew of Charles, also a convert from England, was a monument maker and many of this beautiful monuments graced our cemetery, but are now fast disintegrating. His daughter, Harriet, served us well for many years as an organist, pianist, and music teacher. Vilate and Chloe Fuller, and later Dallice and Ruth Paris were sister singers who sang to us with Harriet Wilkinson Peterson as their accompanist. Leone McMullin Worthen is a pianist student of her, as was an older sister Mattie McMullin Harris.

David Chidester lived here and raised a large family, none of whom are her now. Francis Hartley lives on his place.

Henry Kuhn, a Swiss convert, came to Santa Clara with his family. Later he brought his family to Grape Vine Springs where they lived many years. He and his sons built and .operated a toll road through a long stretch of deep sand that harassed all teamsters. This patch is about a mile and half out of Leeds toward the north. He and his family composed a wonderful family orchestra, which contributed much to the cultural life of the community, in those early days. Elijah Thomas, a member of the Mormon Battalion claimed to be one of the six Mormons at Sutter's Mill in California when gold was discovered, lived here. He fanned, raised castor beans, and manufactured castor oil. He was one of the original finders of a very rich mine, "The Leeds," in the Silver Reef area. It was jumped and held by miners who came here from Pioche. Part of his family moved to St. George, part to Arizona. He, his wife, and one son, Joseph, remained here. He was nearly a centenarian when he passed away at his daughter's home in St. George.

Peter Hanson, his wife, and family moved to Leeds from the Pioche neighborhood. He mined, then he spent years reclaiming, by the sluice box method, mercury lost around the old mill sites. As well as recovering the mercury from around the mills in Silver Reef, Mr. Hanson took his family down to the Stormont mill, and recovered much of it from that mill site. With the proceeds, he and his wife started their little store, and, with what he paid his children for their help, they bought a Cornish organ. It was a great factor in our entertainment for many years. Charles and Minnie both playing. Minnie, now Mrs. Harris, still lives here. Charles lives in St. George.

The Charles Connally family was another large one that left its mark on the community, but all have moved to other places and states. His old stone home is now the home of Bert Sullivan, a new comer, a school teacher and a member of the present Bishopric.

In the early nineties, William Stirling purchased the old Catholic Church in Silver Reef, brought it to Leeds, and transformed it into a combined dance hall and theater.

Many of the 238 souls inhabiting Leeds and Harrisburg in 1892 that Elder Jensen tells of were young people, and the Gay Nineties really came to Leeds with a bang. The town was enjoying an era of prosperity. Some of this was from mining activities, some from cattle and fruit raising, and a generally diversified agricultural activity.

These Leeds young people were a lively, happy, bunch, and our dances, home theatricals, and holiday celebrations were up with the best in the county. We of that period still remember the gala 4th of July celebrations, when M. E. Paris always rode at the head of a long parade as Marshal of the Day. Hayrack floats carrying the original Thirteen States, early patriots, there by proxy, jealously protecting the Goddess of Liberty and her attendants. At the program, who .but David McMullin with his great historical knowledge, and keen, clear, delivery, could be Orator of the Day!

Noise ! ! Lots of it. We had E. C. Olsen, a Danish convert, veteran miner, mill hand, and blacksmith of the town, who, with anvils and powder, was ever ready to.rend the air with deafening "cannon roar," when the signals were given.

Then, too, Leeds being on the main roadway from the North to St George, and having a suitable "Opera House," had a prestige no other town so small could boast. Stock companies, often from Salt Lake City, and made up of people known in the Dramatic Arts connected with the Salt Lake Theatre, played one, two, or three-night engagements here to packed houses, both going to, and returning from St. George. Thus we got to see many fine plays, and such players as John S. Lindsey, the Lindsey sisters, the Pratt sisters, and the other members of his troupes became familiar to us."

Vaudeville shows, minstrel shows, early movies, whose companies transported all of their equipment, even to their lighting systems; concert companies, and elocutionists of state-wide fame, even nation-wide, as Willard Andelin, Arvilla Clark, Pearl Yates, Maude May Bobcock, and others, have entertained us in those happy days.

Prominent cattle buyers known throughout the state made Leeds a stop-over place, and young people came from Pioche for our winter holiday season. The Ruggles Family, who were all circus performers, spent the winter of 1895-96 here and gave performances, and their famous Punch and Judy shows for our entertainment.

So, maybe if we did not spend much time recording our "doings," we were real busy living them-and happy, too.

As for stores! Leeds has had many of them. First, the Isaac Duffin Store in,the building we call the "Log Cabin Inn," where another Willard G. McMullin, grandson of the original, now holds forth. Mrs. Hartman's home was the Wilson Butcher shop. A stone's throw below, the Birch Store, later the Jennings store; then there were two saloons. One, the Chet Paddock Saloon,

gave way to a cooperative store run by George H. Crosby, then Stephen R. Wells. Later this passed into private hands. Across the street from the Log Cabin Inn was another saloon. Where our school house stands was a whole flock of miners' cabins.

Where Charles E. Allen's store stands was the Barbee Mercantile. Below it was the Hillard Bakery.

Later (in the early nineties) William Leatham, who had been a blacksmith for the Stormont Mining Company, operated a store for Orson Adams. This burned down in 1893. Mr. Adams built a store at the extreme south end of town, on the William Harris lot. This was run by Mr. Adams' daughter, Mrs. Susann Harris.

After the death of Mr. Adams, the Harris family moved to Wyoming and the Stirling family operated a store. Mrs. Hanson had her store until a few years prior to her death, which was when she was well into the 80's. Mr. and Mrs. Hanson were converts from Denmark, and were pioneers to Minersville, Utah.

C. E. Allen and wife run a general merchandise store, and Willard McMullin has a small mercantile business. The auto being a big consumer, both stores sell gasoline and oil.

Let us take another glance at Elder Jensen's notes: He tells of David McMullin's mission to the Northwestern States from 1886-1888; Joseph Henry Thomas in 1893 to the Southern States; Ira S. McMullin to the North Central States, January 1898 to September 1899; William Stirling to Great Britain, November 1898 to May 1900.

"Saturday, June 11, 1887, at Leeds, Washington County, Utah, John Brown a member of the Mormon Battalion died. He was born August 24, 1819 in Lower Canada.

"Hyrum Leany and Alma T. Angell became counselors to Brigham Y. McMullin January 17, 1894. A. T. Angell was soon released on account of sickness, and August Kuhn was chosen to fill the vacancy.

"In 1900 the numerical strength of Leeds was 180 souls, (there were 24 families (including 7 High Priests, 3 Seventies, 11 Elders, 9 Deacons, 107 Lay Members, 47 children under 8 years of age."

Near the close of the 19th century a severe drought hit Utah's Dixie. Leeds was very hard hit. Many Cattle died on the ranges, others were too poor to market. Fruit was inferior for two reasons: the drought and the fact that we had not kept abreast of the times in getting newer, better nursery stock. There was but very little of even the inferior fruit to dry. Silver mines were worked less on account of the drops in the price of the metal. If Leeds had had a little boom, all its own, it was now hit by a local depression. At just this time the Branch Normal School, Southern Utah's first high school, was established at Cedar City. The parents soon saw the needs and benefits of an education and Leeds was not behind other towns in sending its young people away to school. The hard times were so hard that the fathers of the town were obliged to go to

other localities, even other states, to find employment and secure funds to meet their new problems. This made it necessary to select women and girls for officers in o our Sunday School, but we bravely "carried on." Martha M. McMullin and Alice Stirling were two feminine Sunday School Superintendents, and they were well supported by the depleted population. The other organizations did not have this problem, and were always able to keep going, unless it was the YMMIA.

On account of these conditions, and because of the schooling, many of our young people were able to secure better employment, especially in the teaching profession.

Another high school that received Leeds patronage was the B.B.B.Y.U. at Beaver, established soon after the B.N.S.

Brigham Y. McMullin was Bishop until November 12, 1913, a period of 28 years. The greatest one achievement of his time was the building of the fine mason work tithing office building having both office and storage space, and surrounded by a high stone wall.

Oscar McMullin tells me that in the days while Silver Reef was getting into stride, Wells, Fargo Express Company extended their service to Leeds, operating a stage coach drawn sometimes by two span of horses, sometimes by three span. Their office and a bank, also operated by them, was on the corner where the tithing office stands. As soon as Silver Reef was sufficiently built up, they moved their business to that place. He said that often he walked the distance from Harrisburg to Leeds just to see the arrival of that express coach as it thundered down the street.

B. Y, McMullin and his counselor, Hyrum Leany, who still lived at Harrisburg, were succeeded by David Stirling, Bishop, and Henry A. Jolley and Ira Edward McMullin as counselors.

About this time Governor William Spry, heeding the pleas of idle, bored convicts, that they wanted some work to do, and motivated by the needs of Rural Utah, established convict labor camps, equipped with state road building machinery.

The new graded roads encouraged the planting of newer, better orchards, and soon the wagon wheels started rolling the newer, better fruit for sale. Molasses, made from sorghum cane, has always been produced here, and is always readily sold.

Early in the time that David Stirling was Bishop, his father, William Stirling, Sr., passed away. Bishop B. Y. McMullin, who had served the town so well for so long, passed away in 1927.

The same year was notable for the fact that the town had set out 2000 fig trees of a new variety.

Also, W. D. Newton, the last of the old Silver Reef Miners passed away that year, at (or about) the age of 88.

David Stirling served as Bishop for 16 years, having the same counselors all of that time. His 2nd counselor, Ira Edward McMullin, succeeded him, and chose for his counselors, Charles F. Hanson and Rex Stirling.

On November 4, 1929, work started on a new chapel which was .completed April, 1930, at a cost of $10,450.00. The ward paid $5,600.00 and the church contributed the balance of $4,850.00.

The chapel is Spanish Mission type, has an auditorium, stage, dressing rooms, Relief Society room, and book closets, is electrically lighted, and is steam heated with a hot air furnace. It was formally dedicated by President Heber J. Grant September 30, 1930.

Ira S. McMullin passed away in 1932 in his 80th year. Others of our old people who have lived to ripe old ages, and who are now gone from us are David and Caroline McMullin who were each in their 84th year at the time of their deaths, Hyrum Leany died in 1945 at St. George in his 93rd year; Sister Mary Ann Jolley, widow of Henry A. Jolley, died in 1947 in her 89th year. William Harris and his wife, Susann, came back to Dixie ,to spend their last days and are buried here.

Ira and Helen McMullin adopted Mildred Egan McMullin in about 1915, when Mildred was eight years old.

She married Ward Jolley of Leeds while still a teenager. They had 3 sons and two daughters. Ward died in the big flu epidemic. She later married Orin Dalton, by whom she had one daughter before she divorced him.

All of her children have married and live in widely scattered sections. All have children.

Mildred lives in Salt Lake City. She is still Mildred Dalton, and is self-supporting, having steady employment at the Veteran's Hospital.

A colorful character of early days in Leeds was Daniel C. Sill. Without a mention of him this little history would be incomplete.

Mr. Sill was a member of the so-called Utah Army, the commonly used name for Johnston's Army. Crossing the western plains he was detailed to guard Pony Express stations. Like many others of that army, he elected to stay in the West when the army was recalled.

He and a partner owned sheep some place near Pioche, Nevada. Once they befriended a sick Indian who, in gratitude, led them to a ledge that contained a large deposit of silver-lead ore saying, "Here white man’s rock, I find. You helped me, you have."

They located the ledge, then others heard of it, and tried to buy it, but Dan and his partner refused to sell. One morning they made and drank their coffee and became violently ill. The partner died an agonized death. Dan was not so sick, and did not die, but he knew that poison had been put in their coffee, and he knew he would not try to hold that mine against such lust for wealth, so he brought his few sheep and came to Utah. The mine became the famous Raymond and Ely mine in the Pioche district, whose production history was known far and wide.

He came to this locality, kept a few horses, cattle, and sheep, and was fairly prosperous. He developed cancer, and spent much money and effort trying to get cured. Many trips were made to Salt Lake City for treatments; cured in one spot, it broke out some place else. His livestock went, but his old age was made secure by a pension granted on his army record. He had neither wife nor children, but he had three great loves-his church, his animals, and children.

He attended the dedication of the LDS Temple in Salt Lake City. On his return he brought each man, woman, and child in Leeds a fine, large Florida orange and delivered them in person.

He died in Leeds years ago past the age of 70, and is buried here.

No more faithful person to his ideals ever lived. There are few left who remember him.

Ira Edward McMullin gave up his work as Bishop in 1939, and Stanley Fuller was selected for the position. His counselors were Walter Eagar and Lawrence McMullin.

World War II hit us in 1941. Bishop Fuller appointed a committee to plan for soldier farewell parties. These parties had not been budgeted for, so had to be self-supporting. Besides paying for themselves, Christmas packages for the soldier boys, etc., the Ward bought $250.00 of bonds out of the proceeds.

Leeds has done its part in both World Wars. We have been represented in all branches of the services, and most of the boys saw service overseas.

Boys called to the colors in World War I:

Cleo Sullivan, Charles Angell, Frank McMullin, Robert P. McMullin, Clifford McMullin, [Oscar] Lynn McMullin, Karl McMullin, Francis Leany Jr., George Leany, Joseph Stirling, Victor Angell.

Our young people answering the call in World War II:

Vernon Jolley, Doyle Jolley, Guy Jolley, Kenneth Jolley, Roscoe McMullin, Grant McMullin, Floyd McMullin, Ben McMullin, Ione Olson (Navy), Mack Olsen, Douglas Olsen, Harvey Savage (Navy), Clive Hartman, Louise Hartley, Eldon Stirling, Stanford Stirling, Clayton Sullivan, Merlin Sullivan, Marion McMullin, Richard McMullin, Stewart Allen, Russell Hanson, Karl Caldwell, Jr., Leonard Emett, Duane Emett and Orval Fuller.

We had two casualties. F/o Clayton B. Sullivan was engaged in ferrying air planes to the West Coast at the time he met his tragic death.

Harvey Savage was reported "missing in action." He was on the Submarine "Scamp." (Riley Savage, Harvey's father, had moved to Leeds in 1917. His family was a valuable addition to the town).

Druscilla Hartley Bradshaw, who grew up here, married and lived in Hurricane for many years, and now resides in Leeds again, lost a son in the "Battle of the Bulge" in Belgium. He was drafted from Hurricane but his remains have been shipped to his mother here, and were buried with military honors on May 28, 1948.

Harold. Stirling, son of Joseph and Marquerite Stirling, became a West Point Cadet along at the time the boys were being drafted. He graduated from West Point in 1946, and is now with our Armed Forces in Germany. Roscoe McMullin," his brother, who reenlisted after his discharge, is also serving in Germany. (1948)

Stanley Fuller moved to Northern Utah in 1946, and Charles E. Allen was chosen to be Bishop. His counselors are Evan Sullivan and Bert Sullivan.

A part of Stanley Fuller's orchard land was purchased by the ward as a welfare project, and the fruit from it is sold fresh, or processed for the Welfare Program.

All of our Auxiliary organizations have been maintained throughout the years, and are now in good going condition. It is regrettable that some of the records of the organizations have been lost.

In about 1912 a cooperative cannery was organized and built in Leeds. Brigham Jarvis of St. George, who had a little plant of his own in St. George, put his business into it, and it was soon a thriving business, creating a market for our products, and giving Leeds a pay-roll. Agitation, growing out of the idea that Mr. Jarvis owned too much of the company stock, caused him to withdraw from it, and the company collapsed.

In 1937 Riley Savage, Ross Savage, Edward McMullin, Stanley Fuller, and Carl Cardwell organized the Leeds Broom Cooperative Association, and it was doing a thriving business, furnishing brooms to 110 stores when World War II broke out.

It soon became impossible to purchase adequate supplies. Edward McMullin and Stanley Fuller sold their interests to Mr. Caldwell. At the close of the war Mr. Caldwell purchased the interests of Riley and Ross Savage. It has always been a going concern, Mr. Caldwell filling orders recently.

The Caldwell family has moved to Montana and the broom factory is closed.

In Mrs. Hanson's declining days, when she was no longer able to serve the people as a capable merchant, the Graff store opened in Leeds, and youthful Walter and Jessie Eagar were its genial clerks. Leeds had been without music of its own for years, and they were indeed a happy addition to the town. They have taught the youth of the town its music while they have been rearing a family of six children. Their children are musicians too, and once again Leeds has a family orchestra. Not only do they play in Leeds, but they furnish music in most of the towns of the county. They are truly a great asset to the cultural and social life of Leeds. Clive Hartman has been an asset as a vocalist. (Clive now lives in Cedar City).

When the C.C.C. program was inaugurated a large camp was established here, owing to a very favorable locations' availability. It was here the entire life of the C.C.C. program and many beneficial projects were carried out, the favorite one being the building of the Oak Grove Recreational Park upon the head waters of our Quail Creek. Many of the men employed about the camp have been members of the LDS Church and these men and their families contributed much to our ward activities.

Frank Sullivan, Willard G. McMullin, Rex Stirling, Stanley Fuller, Ruth Savage, Ira Edward McMullin, Charlene Stirling, and Hubert Fluckiger have filled missions in more recent years. Charles Ashmore, a new ward member, has filled a mission also.

Charles E. Allen was President of the Stake Mission prior to his becoming Bishop of the Ward.

The following have filled Stake Missions: Riley Savage, Willard G. McMullin, Edward McMullin, Leland Sullivan, Hazel McMullin, Charlene Stirling, Norma Hanson, Mabel Caldwell, Minnie Harris, Evelyn McMullin, and Alice Savage.

Leeds still has a Primary School taught the past two years by Mrs. Caperna Fluckiger, (the Fluckiger family came to us from Southwestern Wyoming, and we welcomed their coming here to live, as another fine addition to our town life). Pupils above primary grades are transported to St George daily by bus.

We have had a post office, civic officers, political parties as long as any of us can remember.

Diversified farming, fruit growing, and cattle raising are our main activities, to which has been added truck gardening, and sugar beet seed production, and this year we have shipped strawberries.

We have a culinary water system, electricity and electrical gadgets. The past few years have seen the addition of a lot of new homes that help to give beauty to the town.

Leeds people decided early in the summer of 1948 that it was high time we had a Home Coming celebration, and invited the old friend’s home to feast and visit. Accordingly, the invitations were issued and the responses were most gratifying. The Home-Coming was held.

Many old Leedsites came back to renew the old friendships and participate in our hospitality. It was a happy occasion, and everyone wanted the Home-Coming made an annual institution. Now we are getting ready for our second celebration, and feel sure it will be as fine, and as heartwarming as the first one. May we keep the happy custom up?

Evan and Ada Sullivan and their family moved to St. George in the fall of 1948. This affected our Ward organizations, demanding some reorganization. Ross Savage entered the Bishopric as 2nd counselor to Bishop Allen, Bert Sullivan being 1st counselor.

Evelyn McMullin took Ada's place and became the 12th president of our Relief Society. Her counselors are Ethel Stirling and Maida Sullivan.

Clair Stirling is now Superintendent of Sunday School with Ethel George and Dewane Eagar for assistants.

Grant McMullin, 2nd son of Edward and Hazel McMullin, went to Australia with our armed forces, in the early days of World War II and was stationed at Brisbane. Searching out the LDS Mission headquarters, he attended church there, where he met Kathleen Boulton, a convert to his faith. A break in his health necessitated his return to the United States, and his honorable discharge. He sent for his sweetheart, met her in San Francisco, August 1943, and they were married. She not only stole all of our hearts, but served as a counselor in Relief Society, and as President of the Y. L. M. I. A. for a period of three years. Her parents also came to America to live. We were called to mourn her untimely death August 1949, just six years after her arrival.

Mr. and Mrs. Orson Reid, Mr. and Mrs. Floyd Smith, Mr. and Mrs. Joseph Millett and family, are recent new comers to Leeds. Also Mrs. Inez Tivi.

In 1950 Chas. Allen resigned his place as Ward Bishop, and Clair Stirling was selected to replace him, with Ross Savage as first counselor, and Stanley Sorenson, as second counselor.

In August 1950 we held our third Ward Reunion. It, too, was a success.

The spring of 1951 saw the departure of the Fluckiger "family from Leeds, except a daughter, Louise, who is now Mrs. Eldon Stirling. In the Fluckiger home, we have Mr. and Mrs. Hunter and family. Also Mr. and Mrs. Hafen, living in the Allen Apts., all new comers.

Mr. and Mrs. Mangrum, who bought the Bert and Maida Sullivan home, moved to Salina, Utah, and at present, a Mr. and Mrs. Stugard, are living in the house, they vacated. Mr. Stugard is a geologist, working for the Atomic Energy Commission, investigating the uranium supply.

Mr. and Mrs. David Stirling and Mr. and Mrs. Edward McMullin are serving as Stake Missionaries. They spend some time each week on the temple grounds in St. George, contacting tourists who visit there.

Joseph Millet has also been called as a Stake Missionary.

More of our old people, who have lately passed on, are:

V. K. Mariger, December 1948, age 66; Aunt Beckie Angell, February 1949, age 85; Oscar McMullin, December 1949, age 81; Mary Woodbury Leany, June 1950, age 80.

Aunt Beckie's daughter, Valhalla Angell Mecham, is spending the summer in Leeds. She expects her son, Navarro, home on a furlough shortly, then to be sent overseas. He joined the National Guard, here, and is now Sergeant First Class in the United States Army.

Garth Jolley, a son of Mr. and Mrs. Ammon Jolley, is home on furlough, and will be married while here. He answered the call to the colors in the early part of this, year, 1951.

Leeds, is, and always will be on the map, as long as Highway 91 exists. It will always do its part, whatever the part. It keeps a population of near 180, but is slightly below that number at present.

MR. BRANNAN IN LEEDS

Mr. Barbee had built and operated a store-The Barbee Mercantile-in Leeds on the spot now occupied by the Allen Store.

Aunt Becky Angell told me that when she was about twelve or thirteen years of age, Sam Brannan, whom Paul Bailey has immortalized as "The Gay Saint," lived and boarded at her father's (Charles Wilkinson's) home here in Leeds, and clerked in the Barbee store. She said Brigham Young was in St. George at this time, and that Brannan tried very hard to cultivate President Young's favor. (As President Young was in St. George from November 1876 until after April 6, 1877, it was undoubtedly this time). Prior to that time there would have been no Barbee Mercantile.

She said she remembered especially of a time he tried to buy butter In Leeds to send to St. George to President Young, who was ill, and butter was very hard to obtain at that particular time of "the year.

Also, she said her father would not permit her to remain in a room where Brannan was, not to eat at a table where and when he was eating, showing the prejudice toward Brannan that existed at the time.

On one occasion my father and mother spoke of Sam Brannan's being in Leeds. Mother spoke rather contemptuously of him. Father told something and laughed. I asked who he was and they told me a little of him and his trying to get the church to go to California. Then I asked if they knew him and father told me that they did. He said that Brannan had lived, or been, in Leeds once for a while. Had I known anything of the history of that marvelous man I would have asked more questions.

A MURDER IN LEEDS

George Boyd was one of the flocks of fortune-hunting miners who descended on Leeds and Silver Reef via the "Pioche Stampede." He had a cabin on the tract of land where our school house now stands. Also, he seems to have owned, or partly owned another, over in "Rocky Holler," where he had a mining claim.

To the women of the day he seems to have been quite a Beau Brummel, and, to the children of the town, a sort of perpetual Santa Claus, with pockets never empty of candy and sweet crackers. To the men, he was hard, and cold as steel, having probably acquired that manner from having been a law-enforcement officer from Pioche, Nevada.

Be these things as they may, he had a sweetheart, eighteen year old Mary Leany of Harrisburg, to whom he was engaged. He also had a difference of opinion with Mr. Birch, who had built and operated a store opposite where the school house now stands, just at the corner where the road used to go to Silver Reef, a mere stone's throw below the house now the home of Mrs. Hartman.

This clash was over a piece of land claimed by both. Oscar McMullin told me it was a mining claim. F. S. Hamilton says it was a building site. Anyway, it was something each man claimed as his, and it seems that each was very tenacious to the point that each was prepared to settle the ownership resorting to force, so each kept a loaded gun on himself, or in reach.

One day Boyd strode up and down the street with his gun, waiting for Birch to show his face. Evidently he did, and Mr. Hamilton says Boyd chased him into his store, firing at him twice, but not hitting him. Once inside with his door locked, Birch grabbed his guns from under the counter, shooting twice through a two-inch pine door panel. One of the shots lodged in Boyd's spine, killing him.

Boyd's body was prepared for burial, and lay in a saloon where whatever funeral services there were, were held. His bereaved sweetheart never got to see his dead body, and where he was buried, I know not.

Birch was brought to trial in the local Justice's Court, County Court at St. George, and District Court at Beaver. His plea was self-defense, and he was acquitted, but he mourned the rest of his life for his hasty deed. He realized that a settlement could have been made peaceably, had either one of the parties been willing to suggest it.

Boyd's sweetheart never married

A LEEDS DRESSMAKER

. Vina Chidester, eldest daughter of David and Jane Chidester, had gone to Salt Lake City in the '80's and studied dressmaking, which in those, days included the using of a chart that demanded taking meticulous measurements of the person for whom a dress was to be made. These measurements were used to cut patterns for tight-fitting foundations, or dress linings, which were usually made of crinoline or a colored, smooth, glossy cloth known as cambric. The particular system used by Vina was adapted for cutting foundation and top patterns for styles found in the Delineator Fashion Magazine, published in New York City. These dresses were heavy with linings, stiffening's, dress stays interlinings and velvet or velveteen bindings for skirts made to sweep floors, walks, and yards. The making of such a dress was at least a week's work for the cleverest of seamstresses.

Vina, after mastering this art, came back to Leeds and organized a class of local girls, who worked as sort of apprentices, as Vina made dresses for the women of Leeds, Silver Reef, or even St. George.

Quite a number of girls started the course, but Martha McMullin and Dora Connally were the only ones to follow through until they too, were competent drafters and seamstresses.

Vina returned to Salt Lake City, and so far as I can remember, Martha made or assisted in making, every bridal outfit in Leeds throughout the '90's and the early 1900's, and brides were not the only ones to wear her dresses. Well do I remember the long hours of pattern cutting, fittings, etc. endured by my mother, my aunts, neighbors, friends, sister and myself. My grandmother went to the Pioneer Jubilee in 1897 and received her Pioneer Badge in a shining black taffeta made by Martha.

One of my aunts refused to "sit" in a family group for a picture until she could have on a dress Martha made.

Well, it may have been a grand profession in a day when women had but two dress-up dresses a year, but oh, thank Heaven for the advent of the style books that featured tissue paper patterns that the sweet young ladies could (though amateurs) buy the pretty sheer, new fabrics, a paper pattern, and, by following the cutting and sewing directions, cut and make their own pretty frocks.

SOME OF MY MEMORIES OF SCHOOLS IN LEEDS

My formal education started in the autumn of 1890 in the old Leeds meeting house and schoolhouse combined-a large stone building of one room thirty six feet by twenty three feet. This same room is now incorporated in the present day chapel.

As it does today, it stood about midway of the town, facing the rising sun. The ceiling was very high. A door and two high windows were in the front. Three equally large, high windows on the south side were confronted by three other large high windows on the north side.

Approximately one fourth of floor space was a speakers' rostrum at the rear. A huge box-style wood-burning stove was the heating unit, and it stood as near the center of the room as it could be placed. The long stove pipe stood vertical for some six or seven feet, then an elbow guided it off to a chimney in the rear wall, and wires attached to the ceiling hold it suspended in mid-air preventing its falling to the floor from force of gravity.

This autumn of 1890 found Melvin Harmon of St. George the sole teacher of about forty pupils of all ages and grades. His salary was about $40.00 per month.

So many of these pupils were beginners that the task was just too much for one teacher, and, to meet the situation, the little old frame building belonging to the Relief Society Association, which stood a few feet from the stone building, was requisitioned. Our dear Vinnie Angell was taken from the upper class for a teacher, and a primary school was created for Leeds. Her salary may have been set at $10.00 per month, and she taught us for several years. Then Christina Wright, another local girl, took over. At the end of Christina's term I was promoted to the upper room.

Throughout my entire grade school career a school year consisted of two ten week terms, or five four-week months. I attended this Leeds school ten years. That would have been a total of two hundred weeks, had I been a regular attendant. Now a student attends school about eight years with thirty six weeks per year-about two hundred and eight-eight weeks.

Well, I can say that we learned, and took pride in learning. Yet I have this to say: never in my life have I seen a group of youngsters who could have as much fun as the group I grew up with. We were mischievous to the nth degree, yet, as I look back, we were not malicious with our mischief, nor destructive. True, at Halloween we may have exchanged a few items for the neighbors, such as bridges and gates, but we did not smash these things. We were forced to create our own amusements, for there were no picture shows, no regular entertainments of any kind. But we did have our Friday afternoon programs and spelling matches in school. There were the usual Friday evening and special day dances, and we did have molasses candy and honey candy "pulls," hay rack rides, nightly playing of games on moonlight nights out in our broad, open street that knew not the toot of an auto horn. Also much horseback riding.

During these ten years of schooling, the procession of teachers for the upper grades were: Melvin Harmon, James Duffin. Walter Slack, John S. Woodbury, George E. Miles, Angus Sprowl, and T. M. Rees. Mr. Rees was from Salt Lake City, about twenty-one years old, and our very first high school graduate teacher. He graduated Leeds first class of eighth grade graduates in the spring of 1901, and I chanced to be one of four who graduated. To this day Vinnie Angell and T. M. Rees stand out in my memory as my favorite teachers. Also, that year was the last five-months school year, the term being stepped up to seven months thereafter.

While the above men taught our upper grades, Vinnie Angell, Christina Wright, Susie Stirling and Lizzie McMullin, all Leeds girls, held down the primary school, and salaries had crawled up from Aunt Vinnie's meager $15.00 to Lizzie McMullin's $25.00 per month.

With the opening of the Branch Normal School in Cedar City, education in Southern Utah received a real shot in the arm. Prior to this time Susie Harris and R. S. Harris are the only young people I have any recollection of being out of Leeds to attend high school. Susie attended the B.Y.U. at Provo two years prior to her teaching in Leeds, about 1894. In about 1899 Mrs. William Stirling took some three of her daughters to Cedar City where they entered the B.N.S. (Though they had never been formally graduated, they were well ready for high school). Also, that year we had Lizzie, Clarence and Ann McMullin, Minnie Hanson, Maude. Ben and Lue Harris, besides the three Stirling girls, making at least ten students from Leeds in high school at Cedar City in 1899-1900. There may have been others who I do.

In my listing of the teachers that Leeds has turned out, I have omitted a number, and to them I offer an apology. They are Libby Leany Cox and Culbert Leany, children of Hyrum and Mary W. Leany of Harrisburg; and Hannah Deady Tomsick, daughter of Mr. and Mrs. Jerry Deady, also of Harrisburg.

The Riley Savage family turned out two teachers -- Mrs. Addie Savage Neagle and Mrs. Ruby Savage Oller.

Culbert Leany now lives in Washington D. C., where he is a statistician for Uncle Sam. George, one of the boys who fought in World War I, is a successful merchant of Lehi, Utah, where he has also served as Mayor of that city. The other brothers are all successful in their chosen lines, be it farming or something else.

Now scads of children and grandchildren of the builders of Leeds and Harrisburg are fanning out over the land, building new lives, entering the professions

old and new.

I would love to tell separately of each and all, but my memory is not equal to that task, so will satisfy that desire with a mere mention of one fine family that has become a part of the Leeds community within the past few years. It is the Art and Blanche Eastman and children group - a vital and welcome addition to our ward and school. We would like to welcome a lot more Just like them. Mrs. Eastman is a sister of Mrs. Boss Savage.

From this procession of students, Leeds has furnished the following procession of teachers: Alice, Ida, Ruth, Bell and Fay Stirling; Minnie and Charles Hansen; Lizzie, Ann, Clarence, Ada, Wallace, Laurel and Etta McMullin; Lyle, Margaret, Maggie J., and Ione Olsen; Bess Angell, Libbie Leany, Culbert Leany. Hannah Deady, Addie Savage, Ruby Savage, Shirley Olsen Sullivan, and Alene Allen Cuff.

In addition to her teaching, Minnie Hanson took voice culture and was our one soprano soloist. Also our first high school graduate". Mayme Olsen, eldest daughter of E. C. Olsen, was our first graduate trained nurse. .Wallace R. McMullin and Charles F. Hanson were our first college graduates, Wallace being valedictorian of his class.

Clair Stirling, Clinton Fuller, Charles Wright and several Angell boys have entered the building professions. Other of our young people have become housewives, secretaries, stenographers, farmers, truckers, cattlemen, etc. Floyd H. McMullin and his brother, Ben, sons of Edward McMullin, are graduate engineers of U. of U. Floyd is holding a responsible position in Government Reclamation Work. After the fall and surrender of Japan, Floyd served in China with the forces who took over the surrendered Japanese in China. He was stationed in the ancient capitol of Kublai Kahn, saw those ancient palaces, and brought home rare specimens of Chinese art. He was a Lt. in the first division of the Marines.

Ethel McMullin graduated from a commercial course at the B.A.C. in 1917, and spent several years working in a secretarial capacity for the Ryan Fruit Co. in the northwest.

Her elder daughter, Joan George, is now one of seven girls out of a thousand to start, who completed tests to be accepted for specialized work on the Los Angeles Police Force. Her work is with teenage girls in a rehabilitation program where she guides activities both educational and recreational.

Bess Angell Rees not only taught school, but raised a large family, completed a college course, and a medical course. Was ready to practice medicine when a pre-mature death cut short her career.

OUR MEETING HOUSE BELL

. Our first meeting house was a rock structure, 23 ft. by 36 ft., built on the same site as our present chapel. In fact it is a part of the chapel, that building being planned to make use of the old one. It was started in the spring of 1875. The mason work was completed, building roofed, and doors and windows put in, all in that year, and was used that way.

It was completed in 1878. Willis D. Fuller was acting Bishop in Leeds, in 1875, and until November 1877, when Goudy Hogan was made Bishop. Seth Pixton was living here at this time, occupying the stone building built for himself, by Bennington Stringham, when he, (Stringham) was Bishop. The building, still standing, is now the home of Mr. and Mrs. Stanley Sorenson.

Pixton went to Salt Lake City in 1877, and brought back the bell, which was installed when the building was completed in 1878, from which .same perch it rang out to us throughout the years-in fact until it was replaced in 1930. Listen to its story:

Brought to Utah, in 1858, by Johnston's Army, it served at Camp Floyd throughout the life of the camp. It was erected, or attached, to a cannon carriage, and was used to summon the soldiers for the various assemblies, i.e., chuck, etc., etc.

Johnson's Army was recalled, when the Civil War broke out in 1860, but the federal government suspected the loyalty of Utah, so Colonel Patrick Edward Conner was sent here from California with an army of three hundred volunteer recruits, from California "and Nevada. Camp Floyd had been abandoned, and most of the material had been sold. Connor's Army took some

equipment from there, however, the cannon and bell going with him to Salt Lake City, and on to the bench above the city, where he established Camp Douglas, (later Ft. Douglas) in October 1862. The cannon was placed within range of Brigham Young's residence, by 1863. Colonel Connor, later General Connor, was a Mormon hater, and there was a great deal of hostile rivalry between his soldiers and Mormon civilians. The soldiers twitted the Mormons, as being stupid and incompetent. The Mormons retorted that they could "steal their cannon and bell from under their noses." When these items were not stolen, the soldiers taunted the boasters, who, one rainy night, did get into the fort, and attach tow ropes to the cannon. They left one of their number concealed there. After the last visit of the sentry for the night had sounded the "All is well," and all was quiet, the concealed man braced himself astride the cannon, securely holding the bell's clapper, and perked the tow ropes, signaling the ones without to pull, and the cannon and bell left the Fort.

When the theft was discovered, rewards were posted for names of the offenders, who only then realized the gravity of their deed. They had to maintain absolute silence and hide the stolen articles. They were hidden in a barn, and covered with hay.

Seth Pixton, up from Leeds, found himself in the vicinity of the homes of the pranksters; this was in 1877. He was told by someone, "If you'll take that dam bell to Dixie, it is yours." No doubt he thought of the uncompleted church in Leeds. Anyway, he accepted the bell, hid it in a sack of grain and brought it here. In 1878 the church was completed, the bell installed in its belfry atop the church, and there it stayed, serving the town for many years. The old cannon was finally dumped in an abandoned well and buried.

In 1929 and '30, Leeds built a new chapel. Ira Edward McMullin was Bishop at the time. The people wanted a new and better sounding bell. Hardware salesman, Mont Taylor, through whom all of the hardware for the new building had been bought, was contacted. He said to Bishop McMullin, who had told him the story of the bell, "Last year I sold a new bell to some people trying to establish a dude ranch at Cove Fort. They have gone busted, and Kesler, of whom they were buying, has taken the property back. This new bell is just sitting there. I'll bet Kesler would trade it for your old one." Taylor contacted Kesler, and related the story. Mails were too slow for Kesler, who rushed down and hunted up the Bishop, and made the trade.

Leeds has the new bell, and the old one of Camp Floyd reposes still in a museum at Cove Fort.

The story of the theft, and of Mr. Pixton's bringing the bell to Leeds, was told to Edward McMullin by his father, Ira S. McMullin, a resident of Leeds when the old church was completed. It was also told to Edward by Ira's brother, David.

A word now as to Ira S. and Helen McMullin's family: Martha married Allan M. Fleming of Silver Reef, originally of Illinois. Both are gone-both buried in Overton, Nevada, where their family grew up. Their children now all reside in Ogden, Utah, the two sons employed in the Rail Way Mail Service.

Lizzie married James M. McQuaid of Pennsylvania. These parents, too, are dead. Their two sons reside in St. George, Levon being a member of the Ashby-McQuaid partnership. Clyde owns a farm and has it stocked with cattle and horses.

I was third in the family, followed teaching (mostly in Nevada where I held a life diploma to teach in the Elementary schools) later receiving teachers' retirement salary.

My husband, Vivian K. Mariger, and I came to Leeds late in October 1940 to make this our home. He succumbed to a long-standing heart ailment in 1948. I still "carry on" in the home my parents founded.

My brother Edward and his wife. Hazel Hopkins McMullin live here too. Their children have been discussed elsewhere.

The youngest brother, Karl, married Leone Russell of Hurricane, and that is where they chose to make their home.

His four eldest sons have seen or are seeing military service, the oldest now being married, lives in Las Vegas, an automobile mechanic.

The oldest daughter is currently a student at Dixie College. The four youngest children still attend school in Hurricane.

Looking back over the year, I think of the winter of 1900-1901 as Silver Reef's last social binge, or fling.

There were probably three dozen people in the town. All told, I think there would be a male population that could be figured on to attend dances as 8 to 12, and about the same of girls and women.

The Old Social Hall had not been, as yet, moved to Leeds, and the gay bachelors conceived the idea of Leeds, (which had a thriving crop of young folks) and Silver Reef's teaming together and having our week end dances-one at Leeds, next at Silver Reef, and so on, throughout the winter.

The plan worked beautifully, and, regardless of rains and snows, the wagons plied back and forth with dogged determination and much hilarity to those week end dances. I think we all had the most fun that winter that we ever had, and one figure that stands out big and gay was Jimmy Cobb. He had his mine-The Cobb. Jimmy made good money, and spent it lavishly.

One teacher in Leeds that winter was T. M. Rees, and he was another big fish in the puddle, giving our parents a sense of security by going along with us, and being a wonderful leader for teenagers for some six months of real hilarious fun and camaraderie-a winter to be remembered.

Time has not been standing entirely still for Leeds since the publishing of "Saga of Three Towns." Small as we are, and really getting smaller numerically, we have abandoned our old worn out, outmoded water system, and installed a new one at a cost of some $50,000.00 to be paid off in 40 years; Now 36,900 feet of 4 inch pipe bring us water "cold as ice, and clear as crystal," not from the wells of Alhambra, but from a wonderful spring at the foot of Pine Valley Mountain, one of best in the entire state, and stores it in a steel storage tank of 60.000 gallon capacity, situated just above Silver Reef. More of the 4 inch pipe brings it down to connect with the old pipe line, and the water never sees the light of day until it gushes from our taps. This project was completed in January 1956.

Then, we are now the City of Leeds and have street lights to guide our rest-while stumbling feet as we go up or down our town at night. The state has built a wonder super-highway thru the town and some four or five miles southwestward, a link in the ever-improving highway, U. S. 91. This was done in the summer and autumn of 1956. Since becoming the City of Leeds we have had two mayors elected, A. A. Eastman and W. G. McMullin.

The dry seasons of the past 7 or 8 years 'have also wakened this City of Leeds to build a brand new cement ditch, and install a lot of nice cement bridges down the east side of the street where the main irrigating stream flows. To do this they narrowed the sidewalk some 2 feet, and took those dangerous light poles out of the highway and planted them on the sidewalk. Tourists are no longer going to feast their eyes on lush growths of weeds along the ditch, and we will still be able to hear and see those sparkling waters, except on the days when they are turned out above for irrigating purposes. This completed in spring of 1957.

All of this on the improvement phases of our changing lives, but time has brought some other changes too. In this short time some ten or eleven of the old timers whose faces smiled out from pages of "Saga of Three Towns" have passed away. At the same rate in another 10 years not a soul of us who knew Leeds and Silver Reef throughout the 1890's will be here to say "I was there."

Ross Eagar has had his nationally publicized case of polio and now lives in his own home with his own sweet young wife, the former Zelda Fish of Pintura, Utah.

Though he is a prisoner to the rocking bed and wheel chair, he is cheerful, happy and busy. Dixie College teachers assist him in pursuing his studies, and he is a source of inspiration to all who visit him. He has some use of his hands, some movements in. his feet, and if courage and faith will accomplish the marvel, he will walk again.

Ross Savage with Walter Eagar and Glen Beal are a new Bishopric, succeeding Clair Stirling, Ross Savage, and Stanley Sorenson. The auxiliary organizations are all in fine shape, functioning smoothly, with births and marriages, the same as other communities, except that it comes to the marriages our town is so many are cousins or what-not of someone else, that our boys and girls all go out of Leeds to find their husbands and wives. As for instance our last three weddings-all girls. One chose to marry an army captain, a boy making the army his career. Another married an honor student from Dixie College who is now attending the University of

Utah on a scholarship; the third is marrying in June, an honor college graduate from New York State whose work is in the Security Branch of our State Department in Washington, D. C.

We have students distinguished in the musical arts, historic arts, and ballet dancing, and this current year two of our young belles were the soul nominees for most popular girl of the year at Woodward High. As no other contestants were in the field, Leeds got that too.

We have also, at long last, a pipe line laid to our cemetery so that we will have a supply of water to plant shrubs and flowers, and some day, we hope, lawns. It has been a long hard struggle, this year of 1957 sees that dream a reality. Next thing on that agenda is going to be to create a fund to hire someone to act as caretaker, and plans are laid for that too.

Throughout the years this small "one horse town" has had many things to be thankful for. I shall not enumerate them here, but Leeds has not suffered scholastically from being a small town. Maybe that being small and having so much to do to keep up, our smallness has been a blessing, the fact that so many things do and so few to do them has put responsibility on all, and all have profited thereby. Be it as it may, our young people have always been with the vanguard in the county in scholastic ability and achievements. We feel that, only so far as our young folks needed to share in the use of play equipment and sporting activities provided by the state or county our small school which we have now lost, was no deterrent to advancement and accomplishments. The records made by our "small fry" that are available will bear me out in this, and, as is true now, has always been true. There were just no records kept in the less organized days, but Leeds has never had to stand by and see neighboring communities surpass her boys and girls.

We have had our share of queens - rodeo queens and college and university queens; business girls and stenographers second to none have gone out from Leeds.

Also, there are three new teachers to add to our long list: Grant McMullin in the field of agriculture, a high school teacher, Geraldine George, a first grade and kindergarten teacher who has won high praise in both California and New York State. Also Duane Eagar, an elementary teacher in Utah schools.

Actual records of 4-H Club work over the past 10 years show our boys and girls rated equal to, or above any others in the county. In church activities, either singly or in groups, they have consistently won awards. 4-H girls ranging in ages 10 to 16 years have been consistent blue-ribbon winners in cooking, home work and sewing, winning county and state recognition. In the sports activities the boys have, for several years been tops in tennis at Woodward High, and have made trips up-state.

In scholastic activities at Woodward High for the past 3 years we would seem very egotistic if we named all the offices filled by our small group of boys and girls. Then, to know that in the present school year, three out of the five first weeks of school in the new East Elementary Building some one of our "wild little brats" has been chosen as the most polite

person of the week! Leeds students have held positions on the staffs of school papers, and two have been secretaries of the Student Body Council this very year.

The following boys have had military training: Ned Sullivan, Dwayne and Wendell Eagar, Merrill Stirling, LaMar Sullivan, and Don Porter.

L.D.S. Church missions have been filled by Gary Sullivan, Merrill and Culbert Stirling.

SOME AFTER THOUGHTS

The town of Leeds being what it is-a suitable place for a few elderly people to reside in comfortably and pleasantly, and for the few younger families to rear and guide their offspring through childhood and adolescence, most of the maturing young people are obliged to choose professions and go elsewhere to earn their livelihoods and gain their places in society.

Leeds is proud-yes, very proud of these boys and girls, whether they choose military careers, become teachers, or salesmen, or mechanics, or perchance enter secretarial fields, become business executives, cattlemen, housewives, or farmers, because whatever they choose to do, they do it well. Of course we cannot name each individual who thus goes out, but I do feel the urge to mention George Mack Olsen who worked in road construction with the W. W. Clyde Construction Company for eleven years, and was sent by his employer to the area designated to become the city of Page, Ariz. He went to the area in July of 1958 where he was to oversee construction of streets, sidewalks, water and sewer systems, and to construct access roads to the Town site and Dam site.

Mack carried out his assignment with credit to himself, having the big job completed in March 1959. However, he remained there until May 9, 1959 to complete some other small contracts the company had received.

At the end of eleven years he severed his connections with the Clyde Company and entered the employ of the Utah Concrete Company where he can spend more of his off work time with his wife and children.

A younger boy whom we are proud and happy to salute is William (Bud) Stratton who graduated in the field of Education from the CSU in May 1959, and entered into the profession of teaching at the Jim Bridger Junior High in Las Vegas, Nev., in September, 1959.

Bud married Miss Penny Adams of St George soon after his graduation.

One sad loss to us was the death of Miss Fay Stirling from a heart attack. She was in her class room in Salt Lake City when she was stricken.

One more person to salute is our genial postmaster Walter Eagar, who has held that post for thirty-four years.

Also, we have another LDS Missionary in the field. Eric, son of Art and Blanche Eastman is now in Sweden.

Throughout the years we occasionally acquire some new families, and lose others. The Millers, Furrows, Isgars and Carters are newcomers here. Gary and Ned Sullivan, sons of Leland and Lula are residing here. We have lost the Clair Stirling family temporarily. Grant McMullin teaches, owns a home, and is in the ward organization at Escalante. Frank and Betty McMullin with their daughters are at San Jose, Calif., and Mr. and Mrs. Alma Weeks have their home. Mr. and Mrs. C. R. Morford sold their home here to Mr. and Mrs. Leonard Carter, and purchased a home in Cedar City where Mr. Morford is employed. Mrs. Nita H. Gunther has a part time home here, and Mr. and Mrs. George DeMille are residing at Silver Reef. Mr. and Mrs. Herbert Ludwig own the Floyd Smith acreage. Then there are several families renting homes here to be near their places of temporary employment.

And so the story of the survival of Leeds goes on and on.

Album of Leeds

Solomon Angell and Lucinda Clark

William Leatham and Margaret Buchanan

Brigham Young McMullin and Ada Parker

John Wilkinson and Elizabeth Broadhurst

David McMullin and Ruth Caroline Parker

Naomi Hartley Julia Ford

George

Edward Angell and
Rebeca Ann Wilkinson

Hans Peder (Peter) Hanson Rasumssen
and Adrea Hansine Ipsen

William Stirling and Sarah Ann Leany

Erastus Christian Olsen and Jane Schiappi

Marion Eli Paris Adams
and Sarah Jerusha (Jane) Page

Thomas Stirling and
Harriet Centenial McMullin

Oscar McMullin and Marianda McArthur

William Duncan Sullivan and
Mary Ann McMullin

Mutual group in 1903 or 1904
Back row: Dallice Paris, Margaret Olsen, Ruth Paris, Jennie Angell, Ethel Sullivan, Nan Parker, Brenda Angell, Verda Sullivan, Ethel McMullin, Belle Stirling.
Front row: Ada McMullin, Annie Hanson, Pearl Bastion, Mattie M. Harris, Martha McMullin, Jennie Paris, Maude McMullin

Sarah Chidester

Chloe and Vilate Fuller

Mark and Edward McMullin

Willard Glover McMullin

William Sullivan

Leeds about 1914 while poplar trees where popular, Log Cabin Inn and tourist cam in foreground.

Where Quail Creek waters entered Leeds—a gladsome spot in our yesteryears. Home of M. E. Parris, his family in background.

Etta McMullin Lyle Olsen
Ruth Stirling Minnie Hanson

Rebecca Ann Angell and
Thomas Matthew Rees

Joan George Sherry Fay Stirling

Clarence McMullin

W. R. McMullin C. F. Hanson

Ida Stirling Laurel Hafen

Shirley O. Sullivan Ione O. Farmer

Old Kuhn Home at Grape Vine Springs, Henry Peterson and family occupied it at time picture was taken, Women at left, Mrs. Peterson's mother. Woman with baby, Mrs. James Booth. Children are Booths' and Petersons'.

Ira McMullin, his wife and family – Lizzie, Martha, Etta, Edward and Karl.

Donald Elijah Fuller and Lavina Angell

Mary Evaline Ross and Riley Cooper Savage

Drucilla Hartley Bringhurst and Emma Hartley Angell

Naomi Emma Eliza Walton and Francis Marion Hartley

Phoebe Angell McMullin, only living member of Relief Society organized in Leeds on May 4, 1876.

Elinor Stirling Scott, taken when a young woman

Lest We Forget

Some Leeds boys who were in World War I

Frank P. McMullin

Lynn McMullin

Clifford McMullin

Charles Angell

Robert P. McMullin

Cleo Sullivan

Karl A McMullin

Victor Angell

George Leany

Francis Leany

Chapter III

SILVER REEF

SILVER REEF, UTAH, 1885

Ludge, Cemetery and a portion of famous old race track in foreground . . . . after the town was built up on the boulders, instead of in Barbee's Bonanza City, as Barbee planned, a race track (where races famous the state over were run) was laid out on Bonanza Flat.

SILVER REEF

Silver Reef! Town of Mystery, Town of Romance,
Town of Riddles still unsolved!
Oh, the secrets you are guarding in those
Deep, dark, gaping holes!
Now, we gaze with mingled love and wonder
On these remnants of your past,
As we ponder, with the wise ones,
The secrets of a great atomic blast.

Let men ask "How came these metals here?"
How many reefs were faulted from their old
Established place?
What the out-put? What the value?
What the answer? Who can say?

We of Dixie ask one question, only one,
And answer it, as best we may:
God didst put I here for us,
In our dark and direful day:
Didst bring it forth when,-- almost, --
Hope from us was gone,
That the towns of Utah's south land
All their hardships would withstand:
Market for the cheese, the butter, fish of Panguitch;
Lumber shingles, grain and such;
For the products of the iron mines upon our
Northern flanks;
An the fruit of trees and vines, and shurbs
That grew so lush on our sand banks.

Alas, the homes that sprang so quickly
Soon were vacant, empty rooms.
But the pioneers who viewed them
Could not see them just decay,
And they brought their teams and wagons,
Hastily hauling them away.

Livestock, brough form all the towns,
(A ready market finding)
Quite helped another industy,
To supplement the mining.

Alas, the homes that sprang so quickly
Soon were vacant, empty rooms.
But the pioneers who viewed them
Could not see them just decay,
And they brought their teams and wagons,
Hastily hauling them way.

Now, a scarred and lonely landscape
Greets the trav'lers wondering gaze,
As he comes to view the remnants
Of this camp of by-gone days.

And, so, we love your memory,
Sad old Silver Reef!
And your bright, new promise too,
Of a newer flow of metals,
lately Come to light,
That can even help our Nation in defending
What is right.

It is with strong though varied emotions that I attempt this little history of Silver Reef, the mining camp in Utah's southwestern corner that occupies such a unique position in the geological and mining worlds-unique for several reasons:

\ First, it was the original place where silver was found in sedimentary rock. Even to this day geologists argue the matter, though most accept the idea that volcanic gases brought it from the interior of the earth, and, upon reaching the porous sandstone strata, the metals were deposited, the gases escaping or forming other compounds. The metals found are silver, copper, vanadium, and uranium. Further, this is the only known spot where silver and uranium occur together in commercial quantities.

Second, the camp is within the great Hurricane Fault area, near the edge of the Colorado Plateau and there are a number of reefs that produced ore. It has been a matter of controversy whether it were originally one strata faulted three times, or three different strata. The one strata theory is generally accepted.

And, because of various reasons of ownership, temperment, and management, records of production were not kept, so the total output can never be known.

Also, because adequate records were not preserved, the actual amount of silver producted will never be known. Likewise, the total population at the population peak, is not definitely known. One person who has had a great reputation for veracity, and who was always

conservative and careful in statements given out, has told me that there were 1700 names on the Poll Tax list. If that were so, it would mean a population of approximately 2500 people. Now the most reliable sources available give it as totaling between 1500 people and 2500

Likewise, the total population at the peak of production can never be known, and many wild statements are made.

Mark Pendleton, who came to the camp in 1878, and remained there until 1891, seeing it through it's boom and decline, and who served as assistant postmaster under J. N. Louder, was also an assayer for the Christy Company, working under John M. McFarlane, says: "The population of Silver Reef is often placed at 3000 souls. The census of 1880 throws some light on the matter, giving the population of the Silver Reef precinct as 1046, and the Leeds-Harrisburg precinct as 334, so the total population of the Harrisburg Mining District was less than 1400. True, in 1880 the boom days were over. The peak in population was probably reached in the winter of 1878-79, but at no time did more than 1500 persons dwell in the sandstone mining camp, it is believed."

I, also, wrote to the Census Bureau in Washington, D. C., and received figures as follows:

Silver Reef Precinct 1880 1046

Town	**Census Year**	**Enumerated Population**
Silver Reef Precinct	1880	1046
Leeds and Harrisburg	1880	334
Silver Reef	1890	177
Leeds and Harrisburg	1890	223

Silver Reef just could not compete with Frisco in Beaver County. The two were discovered the same year, but while Silver Reef was producing 10,000,000 ounces of silver, Frisco produced 54,000,000 ounces.

Frisco had the railroad in 1880. It had two wonderful mines-the Horn Silver and the Glory Hole. From the names, we conclude they were really great producers. No doubt it had a great number of mines, but those two are publicized.

I think here a good place to produce a series of reports taken from the Engineering and Mining Journal of New York, and published in 1880. Following those reports will be a different geological theory, advanced by Professor Paul Dean Proctor, a Professor of Geology at the University of Indiana, on how the metals came into the sandstone

ENGINEERS' REPORT ON SILVER REEF LOCALE
PUBLISHED IN THE ENGINEERING & MINING JOURNAL
NEW YORK, N. Y. 1880

THE SILVER SANDSTONE DISTRICT OF UTAH

. By Charles M. Rolker, E. M., New York City

This remarkable and well-known district lies about 320 miles south of Salt Lake City in Washington County, near the Arizona border of the territory. It is now reached by the Utah Southern Railroad and its extension, and the last 100 miles are run by stages. These vehicles are called "jerkies" in the West, which name conveys a good idea of the comfort they afford, and the relief experienced when you alight.

Arriving at Silver Reef, the main camp of the district, one sees at once that he stands where once a surging sea had its domain, marked now by heavy sandstone deposits of a red and white color. The town itself, a neat, clean, and orderly mining town, is encircled on the north by trachyte and granite mountains, skirting to the west They are cut through in places by deep gorges, left us as the only trace of the force of former currents, which drained the adjoining territory to the north; and which when swelled and infuriated by tempests and cloud bursts, took in their grasp the huge blocks of granite and trachyte, which now lie scattered about as boulders, to the north, west and east of the town.

At the base of these encircling mountains lies a belt of dull, brick-red sandstone, over 1000 feet thick. Its extent is seen on the west side of the town, and its trend is for over 30 miles to the south. Following the northern sandstone arc it flanks to the east and south, gradually sinking into the ground until the volcanic lava caps and nearly covers it, leaving protruding masses like frowning rocks in a fiery sea. The whole belt takes the shape of a horseshoe. Back of these red sandstones, on the east and northeast, high sandstone tablelands extend, of variegated colors, from white, to gray, to yellow, beautifully banded, looking in the distance like formidable castles; a romantic picture in the glow of a setting sun.

Turning to the south of the town, we see a sandstone hill, (our East Mountain) about 1 1/2 miles distant, which, through the action of volcanic forces, stands now boldly several hundred feet above the town's plateau. Underlying, as it formerly did, the surrounding sandstone country, it has since acted as a central wedge, around which the other strata have been grouped. Conformable to its east and west slopes, we see the strata dipping east and west with a varying inclination of from 15 degree to 35 degree, striking in a northeast and southwest direction. On either side of this wedge we find a series of superimposed sandstones. They are best marked on the west slope of the hill, where they follow in regular series-white sandstones, underlaid in turn by gray and red sandy shales separated in places by green clay shales, and followed in turn by the white sandstones, the first of the second series. These white sandstones being harder have withstood the weathering action better than the softer underlying shales, and their strike is clearly

marked by protruding ribs or reefs, the intervening shales being washed and carried away to a depth of over 100 feet, forming a valley. Of these reefs, we note three: the White, the Buckeye, and the Butte Reef, overlying each other in the sequence named. Like the red sandstone before mentioned, which has the shape of a horseshoe with the open side on the south, so these reefs are grouped uniformly about the wedge above, mentioned.

Following the course of the reefs in detail, in the immediate neighborhood we see the White Reef southwest of Silver Reef, as far as the eye can reach, and coming northerly to location No. 1, we find it boldly marked, all the way through the Thompson and- McNally leads into and through the Barbee and Walker mines, with a dip to the west varying from 20 degrees to 35 degrees. Going along the northern curve, we find it marked by the Lunar and Homeward claims, dipping northerly and northeasterly. More or less denuded, we find it dipping to the east again, at the head of what is called Grapevine Wash. It is easily traced along the Wash to the Vanderbilt Claim, continuing shortly after under the basalt caps, until it is again laid bare and proved by the ore taken from the Duffin, Oilfield, Toquerville, etc., claims, all situated on the eastern branch of the horseshoe, where the strata dip east until the Rio Virgin cuts through them. Beyond the river it is again seen rising in places over the level of the volcanic beds and conformable to the each ribs of the Harrisburg Gap. This gap is a portion of the central wedge, with its backbone scooped out, pot-hole like, and its hollowed washed sides left standing, dipping east and west.

On this extreme south end of the eastern horseshoe arm of the White Reef, so far no silver has been found, while on its southwest arm low-grade ore has been found in places, up to and past the town of Harrisburg and St. George, a distance of over 20 miles. What I have said of the White Reef holds nearly true for the Buckeye Reef, an underlying stratum. From the wedge-like hill, north of Harrisburg Gap, it can be seen making the horseshoe curve, within the White Reef. It is proven by the Silverflat, Michael, etc., to Chlorider's Chief, and past it; continues washed and disturbed at the northeast curve, until it comes to light again at the head of Grapevine Wash, within the White Reef horseshoe. From here it continues, at times prominent, but more washed and buried, until it passes the Vanderbilt Claim, on the White Reef. It is soon seen, cutting the road leading to the Stormont mill, near where the basalt cap is, and continues from thense forward, boldly and well-marked, until the Rio Virgin cuts it, I should judge about 400 to 400 feet west of where the White Reef sets through the river. Beyond the river it is mostly buried, but its southern trace can be seen from the east rim of "Little Purgatory Basin" (A scooped out pot-hole north of Harrisburg Gap, in the central wedge), looking in the direction of the Stormont mill, and descending the slope to the river in the same direction. Turning to the west branch of the Buckeye Reef horseshoe we see traces of it west of the town of Harrisburg, but sufficient to mark out its line. Buried, or rather denuded, for some parts, it is plainly seen under the McMullin, and continuing on its northward course, it traverses the Emily Jane, Stormont, etc., claims, until we complete the horseshoe by striking again the Silverflat claim. The Butte Reef, underlying the Buckeye Reef, lies within the latter's circuit, being prominently marked on its west and northwest sides, while its east flank probably lies with its top washed in the Grapevine Wash Ravine. On the Butte Reef two or three claims have at times yielded well, but at present hardly any work is being done on it.

I have purposely been explicit in describing the circuits of the reefs, because the theory has been advanced that the Buckeye and Butte reefs were in turn faulted from the "original reef-the White Reef, on its west side, and that only one reef existed on the east side of the horseshoe. A side from the fact that two reefs are seen on the entire circuit, there are other reasons which speak against a one-reef theory. With their sides 300 to 1500 feet apart, gradually widening until the gap is about 4000 feet, or more, at the head of the curve, it would be a very strange fault if we assumed it to have fallen off the White Reef, in the shape of a horseshoe. But, again, underlying the White Reef is the Pride of the West Ledge, a silicous limestone, very plainly marked, and to be seen distinctly at the first glance, all along the White Reef. This marked distinctive bed is absent in the Buckeye Reef. Further, the character of the Buckeye and White Reef ores is as different to the experienced eye as dark blue is from purple, and they act differently in the mill.

As to the age of the sandstones, little can be said with certainty, since so far no characteristic fossils have been found in them. Reeds and rushes are plentiful, but no leaf or shell has been traced to this locality. I have in my possession some fossil nuts and seeds, and what appeared to me at the time I found it an imperfect piece of a shell, but as my box of specimens has not yet reached me, and as. I packed them up with the intention of identifying them after coming East, I will leave a discussion of them for a future occasion. My opinion is that the sandstones are Triassic.

The reefs themselves are made up of whitish-gray and red to reddish-brown sandstones, and between the reefs lie beds of clay shale, varying in color from blue to green to cinnamon brown. The ore occurs in similar strata of sandstone and clay shale. The roof is generally marked by reddish micaceous sandstone, while the floor is made up of erinaceous sandstone of a whitish color, with argillaceous sands underlying. The outcrop of the ore is marked on the east face of the reef, with the exception of those places where the former apex of the reef has been washed off, as in proportions of the Buckeye Reef on its northwest side of the horseshoe. The ore is by no means confined always to one bed, but it is limited to a silver zone from 30 to 90 feet wide, horizontally measured, and anywhere within this belt the horn-silver is liable to be found. As a rule it is more concentrated in certain layers (beds) of this belt, but in places it is so scattered as to bring the grade down to a uniform $10, which at present does not pay to work. Frequently, also, the ore is thrown in consequence of very fine slips from one bed into another. Hence the giving out of the ore in one bed is not exactly a discouraging fact, for a cross-cut may, and very often does, prove it to have jumped into a lower or higher bed respectively. In other words, the argentiferous sandstone belt is compound in structure. The producing branches, two or three in number, run together in places, at least two of them do, and then again continue for long distances with barren strata between, which vary in thickness from 3 to 15 and even 30 feet or more. In the depth, or following the dip, they have kept pretty well their own ground, but I have no doubt that what is now considered two and three separate beds will at a greater depth form one bed throughout. The producing branches in all the mines change occasionally from a sandstone to a clay shale, even in the same bed, but certain portions of the reef, especially the northwestern portion of the Buckeye Reef, and the southern, and a part of the central portion of the White Reef, show a preponderance of clay shale and argillaceous sandstone. The latter strata are also found in some of the northern parts of the White Reef.

Of course the less clayish or argillaceous the sandstones the less slimes are produced in the mill. The southern, and part of the middle portion of the Buckeye Reef, show less frequently vegetable remains than the remaining portion and the White Reef, and in parts these remains are absent. In other parts, and this holds true for the whole district, we find the producing sandstone beds underlaid by a stratum of highly argillaceous sandstones of variable thickness of from 10 inches to 2 feet, which carry much silver, and frequently show solid sheets of horn-silver along the seams of the thickness of a knife blade. I have known such seams to mill right along from $60 to $130; unfortunately their occurrence is not as frequent as might be wished.

The ore itself is what is known as ceragyrite or chloride of silver, which however, below true water-level will change to the sulphuret of silver, with native silver in places. Of the latter change two indications have been met with. A tested sample yielded in a certain jine only 65 per cent of chloride of silver. This proportion will decrease in the ratio as water level is passed, and the ore gets more outside of the reach of waters charged with oxygen and chloride of sodium. The grade of the camp is probably $20 to $25, though have mined portions of beds which averaged right along $35 to $55, and others run as low as $14 to $17; and at times even $8 and $10.

The question of how the silver came into the sandstone has been discussed quite frequently in the camp, as may be imagined, and also among experts. The theory of contemporaneous deposition with the sandstones is held by some, while others hold that it has been deposited from ascending mineral solutions of vapors. I advocate the latter theory. I admit, at the first glance, one may be inclined to assume a contemporaneous deposition, inasmuch as the rushes and reeds coated and partially replaced with horn-silver, are plentiful and a cursory examination may show in certain localities the silver to be confined solely to places where we find organic remains. However, such is not the case, taking the district as a whole. I have seen and mined portions in these beds, for a stretch of 200 consecutive feet, which were really absolutely void to the eye of organic remains, and still milled an average of say $30; in spots as low as $20 and as high as $45 and $53. The carbon may, it is true, have been consumed by chemical action.

But grant for a moment that the silver was deposited contemporaneously with the sandstones. The first question to present itself would be, how did the silver get into the former sea? From what source did the silver come?

The surrounding border mountains have so far not been so kind to the prospector as to reveal any source of silver, and further north we find either gold or lead mixed with the ores containing silver. Now, then, if the silver was dissolved by the waters, and precipitated by the decomposing vegetable remains, why not the lead and the gold, of which not a trace is to be found? Why is the silver limited to zones, outside of which no silver can be found? By this theory the silver should occur indiscriminately over a large area instead of being confined to limited belts, in close proximity to former volcanic centers, as at the reef, and in the district near Virgin City, upon North Creek,-a locality less well known. Such, however, is not the case. Further south we find the same beds carrying copper ores in rich quantities, a fact hard to account for under the theory of contemporaneous precipitation from above. The perfect and

distinct occurrence of ore shoots, in the different producing beds, one shoot underlying the other, separated respectively by 4 and again 30 feet of barren rock, is likewise hard to explain by this theory. I refer to an instance in the Buckeye mine, near the Gad shaft, where there are three distinct producing branches, the top one being separated from the second one by 4 feet of barren rock, and the second one from the third one by 30 feet of unproductive ground, with a well-marked shoot in each, one overlying the other. I cannot see how it is probable that a current in one locality should be at one time charged with silver so as to deposit argentiferous rock, and then again free from silver and deposit barren rock, as would be indicated on the theory of contemporaneous deposition by the alterations just mentioned.

We find in the same line of bedding strata holding petrifactions from 6 inches to 3 feet thick, which contain no silver ore, while above and below it silver is found in good permanent grades in strata showing a scarcity of vegetable remains. Again, I have seen a stratus where the upper two feet assayed about $30, then 6 inches assaying $100 or more, then 15 inches barren, and below it a layer of $20 rock, all of the strata being full of petrifactions.

Another frequent occurrence, is a foot or two-foot seam of sandstone, full of petrifactions, charged with red oxide of copper, azurite, and malachite to some extent, and carrying no silver, while below it, good paying ores were found free from copper, or in places barren rock. Such a copper cap has always been found a good indication for an ore body near by, and drifts which I started on this indication have since opened finely. As another matter of interest, I found the seams, in which the vegetable remains are covered with autunite, which is quite frequent around the Gad shaft, and the two carbonates of copper, unproductive, with pay seams frequently above and below them. From these and other facts, I form my opinion, that the sandstones and silver have not been deposited at the same time, nor the ore deposited by precipitation from metallic solutions passing in from above, after the sandstones had been tilted-a theory occasionally advanced.

At the time of the volcanic disturbance, metallic solutions probably accompanied by steam and vapors, ascended from below and percolated through these sandstone beds, which at that time were most porous. The processure decreasing, the vegetable remains in some parts, ferruginous masses in others, precipitated the sulphurets of silver (and copper in places), while at other points the silver was no doubt deposited by evaporation, as neither of the two precipitants is found, the carbon having been completely consumed in decomposing the metallic salts. The upper portions, now changed to chlorides, are the results of surface waters, charged with oxygen and chloride of sodium, and the native silver found in places is the result of decomposition of the sulphurets. As at Steamboat Springs today, where thirteen distinct openings (springs), emit steam and metalliferous vapors, at variable distances from each other, so did we have in those days different channels, which are now marked by the pay shoots. We can thus easily see how, according to the hardness and compactness of the sandstone beds the solution percolated, 4 and 30 feet apart, in the same direction, forming three ore shoots one under the other, or how the productive branches run together and diverge again. As the thermal waters under pressure coursed through the lower strata of the earth, dissolving the silver from those rocks, portions of copper were dissolved with it from adjoining zones which gave rise probably to the copper deposits further south. In places along the reefs these waters carried more copper in solution than

in others, and through some molecular attraction, it seems as if the copper has more or less limited itself to certain permeable sand beds, while the silver has gone to the adjacent bed, according to the mechanical condition of the rocks, and, no doubt, the chemical nature of the precipitating agent In places where the quantity of copper was but small in the ascending waters it has been deposited in the same bed with the silver.

As to the occurrence of copper in the silver bed I have observed a curious fact. If the copper present by azurite, or a grassy-green-looking malachite, the amount of silver in the bed will diminish, and it is a bad indication for the life of this particular shoot If the copper presents, however, a pale, but lively green, with a bluish shade in it, as we often find the stain on quartzy ores, it invariably improves the grade of the silver ore. You may call it "kind" and "unkind" copper. I substantiated this on both reefs, and the trained eye will tell it at a glance.

Other objects of interest in the beds are occasional pieces of vegetable matter changed into lignite, some of which will assay high in silver, and others again be free from it They are, in stances, coated with native silver, and also intergrown in cases with pyrites, holding a very small amount of copper. In places trunks and branches of trees are founds some of which assay well, while others do not. The silver is not alone limited to the outside bark, but I tried pieces from the very interior of such branches, which I carefully washed and scrubbed, and they yielded as high as $40.00 in silver. I also noticed, in the Buckey Reef, a six-inch seam of jasper, resting between sandstone and clay shale.

Slips are frequently met in the producing sandstone beds. Some of these slips are caused by very fine fissures or cracks, as fine as a sharp blade of a knife. They sometimes throw the ore into the over or underlying producing side branch. In some cases they also cause the silver to pinch out entirely. Often they are also the leaders to a new deposit. Faults are met with, which throw the silver-bearing stratum from a few inches to several feet within the same line of bedding. The faulting lines are usually filled out with clay, and they generally contain silver. The faults and slips occur, in all the mines.

The silver solution seems to have left its traces in some of these faulting lines, being prevented, of course, from impregnating the immediate sides by the clay lining, until it found an easily permeable statum above or below. The faulting lines were formed during and after the tilting took place and previous to the silver deposition.

In this connection, I may mention that the central portion of the Buckeye Reef, on its west branch, shows for about 400 feet in length a reverse dip (to the east), forming a complete curve following the bed down on its dip, and showing the upper portion of this curve faulted 40 feet off to the west.

In the Kinner mine, in one place, it shows, besides, a doubling up before it assumes the regular west dip. There are many other points of interest to be mentioned, but they would lead me too far.

I will add a few words of the early history of the camp, giving a few data as to the bullion production .and the cost of working these ores. As early as April or May, 1875, a party came down from Salt Lake City, spent a few hundred dollars in prospecting, and left the camp in disgust. In the latter part of July, the same year, Judge Barbee came to reconnoitre the district. In September he returned to Salt Lake City to lay in supplies, and returned October 15th. He then prospected for thirty days on the White Reef, now the Gisborn claims, but without results. He then with two men started on the Tecumseh ground, which he located and named after the Indian chief. December 8th, 1875, he made his first shipment of 10 1/2 tons of $502 ore; of course he sorted his ore. In forty-five days he made his second shipment, for which he received $7000. This he followed up with smaller shipments to Salt Lake City up to July, 1876, when, obtaining better rates in Pioche, he afterwards shipped to that place. Salt Lake charged the old Reno rates, and involved shipping rates of from $45 to 50 per ton, while the shipping rates to Pioche, were $30 per ton. They allowed 70 to 75 per cent of assay value, and charged $20 per ton beside for milling the ore. About $17,000 was realized on or sold to Salt Lake smelters, and about $23,000 from the Pioche mills. Outsiders shipped to Pioche beside about $8000. Until October, 1876, probably twelve persons formed the entire population of Silver Reef City; the next month, what is known as the Pioche stampede, set in. From this time active work was done, as will be seen from the mills which were built. In February, 1877, the Leeds 5-stamp mill was started, followed in June, 1877, by the Stormont 10-stamp mill; and in October, of the same year, by the Pioneer 3-stamp mill. January, 1878, brought the Christy 5-stamp mill into operation; and in March, of the same year, the 5-stamp of the Barbee & Walker commenced operations. This latter mill was burned down the 23rd of June, 1879. It was, however, rebuilt and started the 27th of February, 1880. The Pioneer 3-stamp mill was close in June, 1879, and subsequently taken down.

All of these mills, except the Leeds and Christy and the re-built Barbee & Walker mill, were built by home capital. There are four companies at work-in the camp, Christy and Leeds being under San Francisco management, Barbee & Walker and Stormont under New York control. Outside of the four companies, the Kinner mine on the Buckeye Reef, and a few minor claims on the southern portion of the White Reef, are being worked by private parties. On what is termed locally the River Reef, the east branch of the White Reef's horseshoe, little work is being done at present, though a nice round sum of bullion has been made from the ore taken out the Duffin, Gibfried, Toquerville, Jump Off Joe, Vanderbilt, and other claims, situated on this reef. High milling charges and royalties have been drawbacks in the early days of the camp to the poor prospector, and the present regular rates could be well reduced, namely, 80 per cent of assay value, 20 per cent discount, and $12 per ton for milling; returning only $52 from a $100 ore. In instances of big lots, the $12 charge has been reduced to $10 and $9. Mill assays govern of course.

The bullion produced by the camp was, up to June 1st, 1880, according to Wells, Fargo & Co.'s receopts, 2, 755,247 ounces of fine silver. To this ought to be added the value of the bullion produced from the ore at Salt Lake City and Pioche. Disregarding this, however, we calculate that counting full time since each mill has been built (deducting of course the eight months the Barbee & Walker people were without a mill, and also the time since the closing of the Pioneer mill, allowing no time for stoppages and repairs, but counting the time each set of stamps has been running, and noting the number of stamps of the respective mills and reducing it to the

standard of one stamp per day-30 days per month), the stamp capacity of this camp has averaged so far 111 ounces of fine silver per day-a remarkably high record for the camp, considering that all the mills had more or less stoppages during this time. But if the ore had not been in sandstone, this return could not have been made. The amount stamped is from 6 to 7 tons per head per day. If more than that is stamped, it is simply run into the slime pits, and not put through the pans. If only picked ore, from certain portions of the Buckeye Reef, were put through, probably 7.5 tons per stamp, per day, on a month run, might be put through the Stormont hill, which has 13 pans to 10 stamps.

As mentioned in the beginning, some of the ore slimes more than others. The limits lie about between 5 per cent and 33 per cent. I know of cases where 45 tons were stamped to get 30 tons for the pans. The folly of that is apparent, as settling-tanks are cheaper than the cost of hauling it out of the slime-pits, with the cost of having hauled it from the mine, and the interest on the money while it must lie in the pit, added to it. However, this is being remedied fast, by adding pans and settling tanks to the present plant.

The amounts of sale and. bluestone used in milling are naturally very variable, according to the locality of the reefs from which it is taken. The limits probably lie between:

Bluestone, 1 2-10 pounds to 5 pounds per ton.
Salt, 15 pounds to 50 pounds per ton.
The loss in quicksilver varies from 1 1-15 pounds to 2 1-2 pounds per ton.

. The total cost of milling varies at the mills from $3.85 to $6 per ton, to which the cost of ore-hauling charges. All, except the Stormont mill, are steam mills; it is also the only 10-stamp mill of the district. The stamps in use, when new, weigh 750 pounds, and with a fall of 6 inches make from 80 to 100 drops per minute. The batteries have 40-mesh screens. The Stormont mill has 6 blanket sluices, 130 feet long, 14 inches wide, 5 inches deep, inclined under 3 degrees,-the only one in the camp. The pans of the district are rated at a ton and a half. The fineness of the bullion varies from 700 to 987 fine.

Tailings vary from $3.25 to $10 per ton, varying with the localities in the different reefs. Slimes are generally richer than the ore from which they are produced. The cost of mining is likewise variable, depending on the condition of the mines, i.e., on the amount of prospecting and deadwork to be done, or the construction required, and ranges between the limits of $4.50 to $9.50 per ton. The total cost of these ores, including bullion charges, ranges from $14 to $17 per ton.

Taking the camp as a whole, it shows very well indeed, and it must be ranked among our good camps. If the companies now operating there will work their mines legitimately and systematically, the camp will continue to be for a long time yet, what it is today, a sure and steady bullion producer

DISCUSSION

PROFESSOR G. W. MAYNARD: I have a word to say on the question of the age of the sandstone. I have examined an extensive district in the foot-hills of the Ural Mountains, in Russia, and there found sandstones that have the same appearance as these of Silver Reef. The sandstone there, as here, contains reeds and rushes and silicified trunks of trees. I have noticed at Silver Reef, where organic matter occurs that the ore at time is exceptionally rich in silver, while in Russia copper takes the place of silver. At Silver Reef there is no true fossils, but comparing the sandstones of Russia with those of Utah, I venture to suggest that they may be Permian. Mr. Rothwell, who made a careful investigation calls them Teriary; Mr. Rolker is on of the opinion that they are Tirassic.

I have another word to say in connection with the economical working of these sandstones, that is the difficulty of determining whether they contain any silver or not. The barren rock so nearly resembles in appearance the silver-bearing , that it, becomes necessary to make anywhere from fifty to one hundred assays a day. The ores mill from $20 to $25 a ton. They crush very easily nine tons under each stamp. The district has already produced more than three million dollars, and it has only been working a little over three years. The monthly production is 135 to 150 thousand dollars. (Ref. A. I. of M. E. Vol IX, August 1880)

THE SILVER REEF DISTRICT OF SOUTHERN UTAH

(From the Engineering and Mining Journal Jan 10, 1880.)

By R. P. Rothwell

The silver bearing sandstones of Southern Utah are, both in a geological and business sense, among the most interesting mineral deposits ever discovered. The Silver Sandstone District is composed of beds of sedimentary sandstone, of the tertiary or cretaceous age, which are similar in all respects, except in silver contents, to the great horizontal beds through which the canyons of the Colorado River of the West were cut. The silver district forms a depression in the great plateau; and is bounded by high vertical cliffs giving the impression that this district was broken off from the great plain. The beds in it are more or less inclined and are composed of alternating series of white and yellow, red, and purple sandstones and shales, some of which are impregnated irregularly with silver ores, either in the form of chlorides of sulphides. Near the line of the supposed break between the horizontal bed of the plateau and the declined beds of silver-bearing district occur a number of volcanic overflows of basalt, which have the appearance of being the result of a single outflow or eruption, and which appears also to be connected with the presence of these mineral deposits in the inclined beds, which all dip toward the fault.

No doubt, the heat and volcanic gasses from this lava outburst rendered more energetic and solvent liquids passing through the sedimentary sandstone containing silver. As this silver-bearing solution approached the surface, its temperature and pressure would be reduced, and as

the porous sandstone beds through which it filtered contained large quantities of carbonaceous mater, the silver was precipitated in the insoluble form of sulphides, and these were subsequently in part changed to silver ore in the sedimentary sandstone and shales to have been brought about, and many facts seem to confirm this view of the case.

The reefs represent distinct beds, one overlying the other; but the remarkable similarity in their color and physical characteristics has led many to suppose that these town main reefs are but parts of the same bed, with a fault between the reefs. Certainly this remarkable similarity in the beds is very striking; but the closed examination has failed to afford ground for the common belief in a fault between the reefs, and strengthens the opinion that they are distinct beds, separated by softer beds of argillaceous sandstone or shales. The thickness of the beds which separate the two reefs appears to be about 500 feet. The reefs form a crescent, the White Reef being the outer rim, and the Buckeye, with a break at one point in it, forms the chord of the arc. Toward each extremity of the crescent, these two reefs approach each other quite closely, while in the center they are separated by perhaps a mil, The silver- bearing beds, which have been worked, outcropped, in both of these reefs, and have been found of nearly equal richness in the principle mines on each. Among the most important of these mines, and those which largely developed, are the Stormont, Buckeye, and California claims, on the Buckeye Reef; and the Thompson and McNally Claims upon the White Reef; all forming parts of the property of the Stormont Silver Mining Company. Other claims in the district, such as the California, the Silver Flat and Barbee and Walker, and others, have been worke3d to a considerable extent, and have produced large amounts of bullion.

MODE OF OCCURRENCE OF THE SILVER ORE

The following extracts from a report made during the past summer describe the nature and mode of occurrence of these ores:

"The silver occurs as chloride and sulphide, and occasionally as native silver, disseminated through the more porous and fissured beds, and especially in the bedding and fracture planes of the sandstone, and coating the bright 'slipped' surfaces of the hard shale beds—locally known as soapstone—where these beds have been disturbed and crushed. Whenever the shale is compact and has not been crushed—that is, wherever it remains in a condition in which water could not pass through it—it contains no silver. And wherever the sandstone beds become very hard, compact, and unfissured, they appear to become poorer, and the silver is confined more largely to the bedding plains. The silver, that at some depth below the surface was distributed with more of less uniformity, throughout the ore-bearing bed, appears to collect in the planes, between the beds as these approach the outcrop, giving the appearance of the silver 'vein'. So-called, having spilt up and come to the surface as thin leaders or stringers of very rich ore. This is not only the well-recognized condition of the silver-bearing beds everywhere near their outcrop, but it is the condition we should naturally expect from the mineral-bearing solution collection in the bedding planes, as these offered more available channels near the surface.

It is quite evident that the silver we now find coating the polished surfaces of the crushed shales, and filling the cracks and coating the surfaces of the fossilized (Petrified) wood frequently found in the sandstone beds, must have come there after these substances had assumed their present conditions. We may, therefore, expect to find in future, as has been found thus far, that the conditions which facilitate the percolation of the silver-bearing solution, where the rocks becoming compact, hard and unbroken—conditions which would naturally impede the percolation of water—will be found unfavorable to the occurrence of rich ore-bodies."

"The occurrence of the ore in these sandstone beds is extremely capricious, as might be expected from the method of deposition suggested. It occurs in numerous chimneys or chutes, and has collected in portions of the beds where ferruginous or carbonaceous matter appears to have attracted it; yet copper, which in man y places stains the rocks green , seems on the contrary, to be unfavorable indication for silver."

"These ore-chimneys are sometimes small, and at other times, they are several hundred feet in horizontal length I the bed. The ore at their limits—sometimes suddenly, sometimes gradually—disappears, while the sandstone bed frequently continues apparently undisturbed; in the former case, it is generally notices that the bed is crossed by a fissure, and it has sometimes been found that the ore, which, up to the fissure, impregnated one division of the bed, will pass up or down and continue beyond it in another part of the bed, or will pass completely into another bed, Consequently, it is necessary to 'cross-cut' quite frequently in prospection, in order to ascertain whether the ore which has disappeared from one bed may not be found in a neighboring one which at another point may have been quite barren."

"The silver, though occurring chiefly in a few easily-recognized beds in reef, is by no means confined to these; in some of the mines it is found in paying quantities in only one; in other places in two, three, or four beds, while several of the other seams of sandstone contain small quantities or traces of metal; and in those which, in certain divisions, carry paying quantities of silver, the balance of the bed too poor to be milled contains rich nodules and pockets of ore, and is broken up and sorted in the mines, producing an important part of the ore milled. It, therefore, happens that, while the dimensions of the rich portions of the bed may be small, perhaps one, town, or three feet, yet as much as five or six feet of intermediate of overlying poor rock will contain sufficient rich ore in the nodules to make it profitable to break it down and sort it. This feature is observed in all mines of the camp and necessitates the exercise of judgment guided by frequent assays, to estimate fairly the yield of ore in the reserves. It is evident that a sample taken over the entire thickness of rock which it pays to take down would give an assay so low as to make it appear worthless; yet perhaps one third of the bed would give a high-grade or, and the remaining two thirds, yielding extremely rich ore in mall iron-stained nodules and in plant impressions (which would be avoided in taking a sample) though apparently of little value, will, in reality, yield nearly as much silver as the one third from which we obtained a good assay."

"The Last Change mine, also in the Buckeye mine, are places where it pays to mine out the bed to the height of ten to fourteen feet; yet a sample of this entire thickness would give so low a return that the whole bed would be rejected. Nevertheless, by the exercise of skill in

scoring the ore, a large amount of food ore is obtained from portions of the bed which, according to the sample, would be worthless. Indeed, for this reason it is found that the sample assays in all of these mines run much below the actual mill returns from the same area."

"For the reasons already stated, the ore-chimneys seem almost capricious in their vertical as in their horizontal dimensions. Nevertheless, where exploration has been continued, either in depth or horizontally, other chutes or chimneys have generally been found within a short distance. As one of the mines have exceeded a few hundred feet in vertical depth (the deepest in the district extends 600 or 800 feet on the bed from the outcrop to the deepest point opened—a vertical depth below the surface of 200 feet), the question of the continuation or recurrence of ore-bodies at a great depth is an open one, no data sufficient to base an authoritative opinion on having yet attained has exercise any injurious influence upon the richness of the ore."

"The great number of ore-bodies already found in the insignificant depth and lateral extent explored affords the strongest ground for believing that these sedimentary beds, though by no means carrying pay-ore throughout, will be found to contain, even without counting to any great depth vast quantities of ore similar in quality to that they have already yielded."

"The work already don on the silver-bearing reefs has fully demonstrated that the ore is more abundant and richer at certain points than at others, and a most careful examination of each particular property is necessary to determine its value; for while the rocks which contain the ore are as continuous as other sedimentary beds, the occurrence of pay in them appears to be subject to the same laws, conditions, and accidents which have governed the disposition of similar ores in fissure-veins."

Before entering upon a description of the special feature in each mine, and the figures of cost, both of mining and milling, at the several properties in this camp, we shall summarize the production since its first mill was built in February 1877:

BULLION PRODUCTION OF SILVER REEF, UTAH

(In ounces of fine silver)

	1877 Ounces	1878 Ounces	1879 Ounces
January		55,174.65	62,666.16
February	18427.47	56,775.80	84,394.09
March	31,094.55	86,872.05	85,441.56
April	23,070.15	76,897.17	88,888.01
May	20,743.06	82,209.11	83,163.43
June	32,513.65	81,168.91	74,935.95
July	28,218.00	71,401.58	67,878.10
August	34,703.77	73,030.69	62,031.09
September	48,686.86	67,117.50	58,873.77
October	56,985.31	79,647.64	63,239.22

November	45,859.45	67,528.10	69,449.31
December	31,475.61	86,167.20	65,741.64
Totals	371,777.88	883,990.40	866,702.33

Grand total 2,122,470.61 ounces at $1.15 are $2,440,841.10

In the above statement we take the production from July to the close of the year, December being estimated, from the Silver Miner of December 20th, 1879.

We shall next week begin a detail description of the Stormont Silver Mining Company's mines and mill, giving also the cost of mining and milling these remarkable ores, and the profits which results from their treatment.

(From the Engineering & Mining Journal, Jan 17, 1880)

THE SORMONT MINES, SILVER REEF UTAH

With Supplement

In our last issue, we gave a brief description of the curious and important silver-bearing sandstone beds of Silver Reef. AS we have seen, the silver impregnates in variable quantities, not less than three or four beds of sandstone or shale separated by barren beds of similar material. While traces of the metal can be found in almost all parts of these strata, the "pay" is confined to more narrow and irregular limits, either in the form of chimneys, which run down sometimes directly with, and sometimes diagonally across, the general ore-bearing bed, or in irregularly-shaped portions of the same, where, more than elsewhere, the conditions favored the precipitation and retention of the silver.

At this point the silver-bearing portion of the bed obtains a very great thickness as much as 12 to 20 feet being worked in some parts of the mine, and the average thickness worked being probably 6 feet. Though but a single bed was worked, there are several strata upon this property that are known to carry silver in payi8ng quantities, one being met with above that worked and others below it on the adjoining Buckeye claims, which is also owned by the Stormont Company. No less than four beds have been opened, and though not all equally rich at the same point, each is workable at some point opened. No thorough exploration has been made of these underlying beds, the seam first found outcropping on the claim being the only one developed to any extent. Under the enlightened management which this company has secured, we can confidently look for developments which will greatly increase the value of these interesting, though hitherto almost unknown, deposits. The Last Chance property alone is but 300 feet in width; but it adjoins the Buckeye property, which has a length of 1367 feet, thus giving a run of nearly a third of a mile at this point upon the ore-bearing beds. From the workings of the Last Chance mine about one hundred and fifty thousand dollars have been produced. The underground working of the Buckeye mine shows the great number of openings that have been

made and the small amount of mining that has been done on that property; though they produced nearly half a million dollars' worth of silver, chiefly from a single bed. These two claims, then would in themselves a magnificent property; fully six hundred thousand dollars have already been taken from them, in mere preliminary mining operations, yet with a very large profit to the miners. We shall this week confine our attention to the properties, and in our next number, take up some of the other mines belonging to the Stormont Company.

THE BUCKEYE AND LAST CHANCE MINES

The Buckeye property is one of the oldest mines in the Silver Reef District. The claims has been worked till recently by tributers, who have sunk shafts at their own expense, and paid a royalty of 25 per cent of their net mill returns to the owner of the property. Milling charges were formerly based upon the Nevada standard, and ranged from $15 to $25 a ton' consequently tributers worked ores of only high grade and, as these are contained in comparatively small seam through the sandstone and shale beds, their workings were never extensive or imposing and were usually filled up behind them with such low-grade ore as it became necessary to take out in following the rich streaks. It is now found, under intelligent management, that a vast amount of ore carrying from $10 to $25 per ton yet remains in the old workings, nothing less than $35 ore having been shipped by tributers. It is also found that the spaces between the different shafts contain in most cases, good milling ore, so that the bed was, to the tributers, practically exhausted, is to the company still a bonanza.

Since these mines were purchased by the Stormont Company, systematic exploration has been commenced, and connection has been made, upon the levels of the main shaft of the Last Chance mine with the Buckeye workings. Levels have also been driven from the new shafts of the Last Chance, and we believe are now across the line in the Buckeye ground. All these developments have been carried on in ore of good quality; and, in fact, the lower workings are said to be richer than those exposed at the time of our examination in June last. These workings are confined, thus far, to one bed; but, on the northern end of the property, a lower bed of great thickness and extremely rich ore has been worked for some months past, and unquestionably extends under the Buckeye claim. The cost of development in these mines is very small, the sandstone and shales being very easily mined, and there being no water to interfere with the work and not heavy timbering required. There is, probably, no other silver-bearing deposit on the West coast which can be worked with so great facility and so small an expense as these properties of the Stormont Silver Mining Company. The exact cost for the different classes of work and for milling these ores will be given in another article. At present, it is sufficient to say that, with wages at $4 a day, levels are being driven at $5 and $6 a foot, shafts and inclines can be put down at $8 a foot, and the stopping of the ore should not cost more than two or two and one half dollars per ton. The entire cost of mining in these sandstone beds can be safely put within $5 a ton; indeed, it had cost, in some of the mines, rather less than $4.50, though heretofore the work has been carried on a very small scale and in a somewhat primitive manner.

In a report, dated November 25th, 1879, made by Mr. G. U. Colbath, who had just examined the Stormont Company's properties at Silver Reef, we find the following reference to the Last Chance and Buckeye mine:

“The Last Chance shaft is 112 feet deep, where a level runs to the south line, also to the north into the Buckeye ground. Two winzes have sunk from this level north of the shaft, 40 and 25 feet in length respectively. This level opens up a fine vein or ore its entire length to the north, the face now being 30 feet in the Buckeye ground—all the way in ore. The size of the vein can only be determined by cross-cutting. The upper level is also being extended into the Buckeye ground, and discloses the same large being now being worked in the Last Chance. There have been over four thousand tons of ore taken from the mine since July 1st, but the extended levels have shown up, during the time, an additional amount much larger than that which has been extracted.

The Buckeye mine is opened by shafts and inclines—some twenty in number—along its surface. Some of them are only a few feet deep, but ore has been found in all. The principle openings on this mine are three shafts—one about 500 feet north of the south end line, called the South Whip-shaft; and another 75 feet south of the north-end line, called the North Whip-shaft.

All the work being done son this mine is through these openings. The South Whip-shaft is 100 feet deep, from which a drift has been run south 200 feet; and an incline 113 feed upon eh vein has been sunk near the end of the south drift. A level is also running north form the shaft, and ore is being stoped over 15 feet wide—all of it going to the mill.

In the south drift, the ground has been cross-cut, showing several strata of ore varying from one to four feet thick.

The Whim-shaft is 102 feet deep vertical, with an incline upon the vein of 54 feet. Work has been extended at this point, since July 1st, in second level, 108 feet south and 20 feet north. This incline has been sunk 52 feet upon its dip to the west. A level at the bottom of the 100-foot shaft is now run to the south 125 feet and to the north 40 feet.

A level at the bottom of the incline to the west has been run north 75 feet to the Kinner ground and south from the incline 49 feet. These levels are all on the vein.

Where the connection was made with the Kinner mine, ore was being stoped by the latter company, and sent to the Leeds mill—the ore was averaging $35. In the south-drift 100-foot level, the ore is all first-class.

The Kinner made connection with the lower level through an up-rise 22 feet from what seems to be another vein. From this they have mined large quantities of ore.

I am convinced of the permanency of the ore-vein to the deep, based upon these facts. The California mine, to the south of Last Chance, is now down 160 feet upon the vein below the water level, and the Kinner is 70 feet below the water-line, at a point 266 feet north of the Buckeye. In both these mines, the vein is better below the water than anywhere above.

I have estimated the reserves in the Last Chance and Buckeye Mines at thirty thousand tons at $25 ore.

The Buckeye ores are now sampling, from $22 to $60, the larger amount going above $35. This estimate may seem large, but is certainly within my figures, after allowing very liberally for waste and barren ground

THE SROMONT MINES SILVER REEF, UTAH—III

(From the Engineering and Mining Journal, Jan. 24, 1880)
WITH SUPPLEMENT

	REVERVES		"IN SIGHT"	
	June 1879		November 1879	
	Tons	Value ounces fine	Tons	Value ounces fine
Stormont Mine	2,400	63,408		
Last Chance	9,100	189,189	30,000	592,000
Buckeye	10,500	241,500		
Kerr Property	5,000	120,000	20,000	394,000
Total	27,00	614,097	50,000	986,000

Besides this great increase in value of the reserves, the mines have produced in bullion, since the first examination was made nearly $300,000. And the very fact that the developments recommended have actually proved the ores to be continuous and rich over great distances, adds immensely to the value of the property in the item termed "prospective value", which is not ore technically "in sight".

No developments have been made in the other claims owned by the company; but the success of all the work done thus far gives a fair probability of success for developments upon other claims which have already produced some good ore.

We shall now refer to the important questions of the cost of mining and milling these silver sandstone ores.

The following extracts from Mr. Rothwell's Report to the Stormont Mining Company give the cost of mining Silver Reef ores previous to June, 1879.

COST OF MINING AT THE STORMONT AND LAST CHANCE MINES, FROM THEIR OPENING IN AUGUST 1878, TO MAY 1, 1879.

In our last issue, we gave a brief description of the Buckeye and Last Chance mines, which, though large and valuable mines in themselves, form but a portion of the Stormont Company's property. We will now refer to the Stormont and the Thompson McNally mines.

The Stormont mine has been worked to but a very small extent, though it has always yielded ore of excellent quality; indeed, the riches ore we found in our recent examination of the mines of this camp was at the foot of the Stormont incline—one of the few points in this district that is below the water-level. The bed at this point over its average thickness of 4ft 5in assayed

97 ounces and 109 ounces per ton, which is much above the yield of ore from the upper working in the mines. This increasing richness below the water –level I merely accidental; but it has also been observed in the lowest workings of the California mine and in the new workings of the Kinner and it may be more general than we have supposed. It would be natural to suppose that the silver would be found in depth more largely as a sulphide than a chloride.

But little work has been done on the Stormont mine since the date of our examination in June, the mine being somewhat more expensive to work, on account of the water, than some of the other properties owned by the company. The single bed worked has averaged from 3 to 5 feet in thickness and the ore milled has yield very handsomely.

The Thompson & McNally mines, known as the Kerr property, form one of the most valuable properties in the district. In June last, at the date of our examination, the developments were not great, but the ore produced and milled was remarkably rich, and the ore-bearing bed was very large, and apparently, carried ore over a considerable extent. At the time, we were able to estimate but 5000 tons of 24-ounce "in sight". The work since done on the mine has developed a richness even exceeding the favorable opinion we then expressed, and in the report of this recent examination, Mr. Colbath says of this property:

"The Thompson & McNally mines are now worked by means of a tunnel running through the White Reef from the east side, and cutting into the vein about ten feet below what was known as the Meeks cut. In cutting through, it was found that there was another stratum of ore more than three feet thick under the vein then worked, and separated from it by less than two feet of waste or barren rock. On the foot-wall there is a rich stratum of so-called soapstone, nearly all of which is being sacked as first-class ore, but of which none has yet been sent to mill. A cut has been extended 123 feet south, taking up he entire vein, and an average of over eight feet in thickness is being sent to the mill. A shaft has been sunk on the McNally ground, 200 feet north of the Meeks cut, and a level started south to meet one from the tunnel level, which is about 35 feet below the Meeks cut, on the slope of the vein."

"In the McNally shaft, the vein was reached in 12 feet depth. The vein is the shaft is five feet wide, and samples over $30 per ton. It is evident that the foot-wall has not been reached, and I shall confidently expect the lower stratum of ore to be found here, as in the Meeks cut, when the soapstone of shale, which seems to follow the foot-wall of this vein, will almost certainly be encountered. At a point, 170 feet west and a little south of the Meeks cut, a shaft has been sunk by chlorides, which cut the vein 35 feet from the surface. A drift, north 16 feet from the shaft and stope is over five feet wide, and, as in the McNally shaft, it is plain that these operators are only working the top layer of ore, no foot-wall having been reached. These are being assorted to a high grade, all below $30 being rejected."

"The Thompson incline is seventy-two (72) feet deep, and shows decided improvement for the last twenty feet. Over two feet in the face of good milling ore appear here, and some samples of this are very rich. In the south incline, no work is being done at present."

"Taking the developments at the Meeks cut, in the McNally shaft, and in the west shaft, I have no hesitation in saying there are fully 20,000 tons of ore practically in sight, which I believe the amount will be much more in the block of ground included in this estimate. An incline should be sunk upon the vein form the Meeks cut to intersect the west shaft, and levels should run north and south. A winze should be sunk from the McNally shaft to connect with the level north, and a winze at some point south—say 200 feet south of the Meeks cut—to intersect the level run south. This level should be extended and connected with the Thompson incline."

"By means of these operations, the required ventilation would be secured, and the ores would all be brought to one shipping point. An immense area would, at the same time, be opened for stoping, and from indications along the surface, I should expect the greater part of it to be paying ground. To accomplish the objects here proposed, it will be necessary to erect a small hoisting-engine to be stationed I the Meeks cut."

"This plan, if carried out, will , in six months; time, put these mines in good working shape, so they will yield, if demanded, sufficient ore to run a twenty-stamp mill. The levels from the Meeks cut should be continued north and south."

"The ores from these mines, for the last month, have samples at the mill an average of $25.52. This is exclusive of the ores of the first class, which are sacked."

"After the mine is properly opened, the ores can be assorted to a higher grade, should that be though desirable."

These developments made since June last, and referred to by Mr. Colbath, fully established the value of his property, and confirm, in the fullest manner, the favorable opinion, of it we had expressed. The exploration work has developed the face that the entire space between the "Meeks cut," and the Ashbrook shaft, contain a body of rich ore, of very great thickness; in fact, the Kerr property may be considered today as probably the finest mine in the district, though not so fully developed as the Buckeye-Last Chance mine; and, together with these, it is unquestionably the finest property yet opened in the Silver Sandstone country.

The quantity of ore "in sight" in the several properties of the Stormont Company, in June, when these properties where examined by Mr. Rothwell and Mr. Couch, and the value of these reserves, are compared in the following table with the quantities and vales found in November by Mr. Colbath

	Tons Mined	Labor and Salaries Per Ton	Supplies Per ton	Incidentals Per ton	Total per ton
1878					
August &September	577	$16.53	$3.15	$.94	$20.52
October	709	$9.04	$1.45	$.26	$10.75
November	753	$7.07	$1.49	$.23	$10.75
December	1,083	$5.60	$.99	$.57	$7.16
1879					

January	1,726	$4.05	$.73	$.35	$5.13
February	1,566	$4.84	$1.38	$.24	$6.46
March	1,123	$7.75	$1.04	$.31	$9.10
April	978	$6.77	$.60	$.13	$7.50
Totals and Averages	8,515	$6.72	$1.20	$.35	$8.27

COST OF MINING BY THE LEEDS COMPANY

Through the courtesy of Mr. E. C. Crane, General Superintendent of the Leeds Company, I have been furnished, from the books of the company, the following particulars concering the cost of mining from January 1st, 1878 to May 1st 1879.

The average cost per ton on mining 11,944 tons in 1878 was:

For labor and salaries……	$4.38
Sundries ……	.64
Prospecting ……	2.02
Total	$7.04

The expense of mining has been considerably reduced during the year, and for the six month ending December 31st, 1878, it average $6.10 per ton, as against $7.04 for the entire year. A still further reduction has been made since the first of the present year, as shown by the following items for each month:

COST OF MINING AT THE LEEDS MINE

These expenses include practically all the work of developing he mines, though not the work of sinking shafts of putting up machinery.

In the Last Chance, the shaft had just reached the ore-bearing bed when the Stormont Company purchased in August 1878. It is not easy to see where the expenditures in the Stormont mines were applied; for only 1151 tons were extracted in all from it, and very little dead-word is done by the day, with miners and laborers paid $4 per day, and with excessive salaries, it is not surprising that he cost per ton is very much greater than it should be. This cost, however decreased regularly as the output increased; and when that reached only 1726 tons per month, it attained the reasonable figure of $5.13 per ton.

With even a moderate degree of technical skill, economy, and energy, the average figures given above could be greatly reduced, even though wages remained at their present very high standard, and there would be no difficulty in reducing these to $3 per day, with steady work and prompt payment.

1879	Tons Mined	Prospecting	Extracting	Sundries	Total
January ……	1,150.00	$2.027	$2.758	$0.061	$5.397
February ……	1,045.00	$2.096	$1.829	$0.402	$4.417
March ……	1,217.00	$1.775	$0.781	$0.519	$3.075
April ……	1,267.00	$1.813	$0.775	$0.571	$3.059
Totals and Averages	4,679.00	$1.928	$1.536	$0.880	$4.012

These figures do not in some particular give a fair average for the cost of mining. For example, the work of prospecting has amounted to more in these than in all the other mines of the camp, and has been twice what would be a fair proportion were that work carried on systematically and continuously. In this case, it was neglected while the mines were in bonanza, and now the majority of the expenditure is searching for new ore-bodies.

The item of 'extracting' covers the cost of ore-mining proper and genral mine expenses. It is not pretended that ore can be mined for 77 and 78 cents per ton, that figure having been attained during the months of March and April by extracting from the mines large amounts of low-grade ore that had formerly been stored away in the levels and on the stolls as waste. Nevertheless, these results of actual work, as well as the average cost during the last six month of 1878, when the proportion of prospecting was also excessive, fully justify the statement that ore not only can be, but is being, mined in this camp at a cost not exceeding $4.50 per ton, every expense and a fair proportion of prospecting being included

COST OF MINING BY THE CHRISTY M. & M. COMPANY

I am indebted to the courtesy of Captain H. S. Lubbock for the following statements take from the books of this company:

Work commenced on the 8th of January 1879, and the following figures, therefore, incude all the expense of sinking shafts, opening mines, and the many extra expenses inseparable form the first period of a mining enterprise. The company extracted between January 1st, 1878 amd May 1st 1879, 14,248.53 tons of ore. The average cost was:

For labor and salaries per net ton …….	$7.46
Powder, tools supplies, timeber ……	.91
Per ton ……..	$8.37

I have not the figures of cost at the present time, but as assured they are so much below this average that they will justify the standard ($4.50 per ton) giving above.

(From the Engineering & Mining Journal, January 31, 1880)

THE STORMONT SILVER MINES, SILVER REEF, UTAH—IV
WITH SUPPLEMENT

THE BUCKEY MILL

The Buckeye Pioneer mill, belonging to the Buckeye property, is situated at a distance of one and a half miles by road from the mines, it location having been selected as central to the several very promising mines on the southern portion of the reefs. While this postion may have been advantageous as a general custom mill, it certainly is not so for, the Buckeye property; for it now cost $1.50 per ton (which however, might be reduced to $1 per ton) for hauling ore from the mines to the mill. On this account, and because of its small capacity and defective arrangements, this mill, notwithstanding its remarkable record, cannot be said to have any great value to the owner of these mines.

The following details give an idea of the mill. It consists of 3 head of stamps, 750 pounds, which make from 80 to 100 drops per minute, with a fall of 5 inches.

The battery can readily crush an average of 6 to 7 tons per 24 hours to the head of stamps—say 20 tons a day. The limiting point in this, as in every other mill in the camp, is a insufficient pan capacity. The pulp form the battery runs, as I usual though tanks where the ore is deposited. This is next chloride wet in 6 pans 4’6” diameter and 5’8” deep, the shaft in which revolves at half the speed of the battery. The charge in chloridizing varies somewhat with the nature of the ore; but it is about 4 per cent of salt 1½ lbs. blue-stone, 1¼ lbs. mercury, and 1½ lbs. commercial amalgamators, which till recently were exclusively Freidberg barrels; now one pan has been introduced to replace a barrel which it was found to be almost impossible to keep tight.

The amalgamation last six hours, and the charge is about 2500 lbs. of ore. This charge is next run off into the settlers, where it remains six hours. The motive power for the mill is furnished by an engine 12”x18” steam-cylinder, and two tubular boilers, one of which is sufficient to supply the steam required.

The loss of quicksilver in the amalgamating and retorting exceeds 1¼ lbs. per ton.

Previous to August 1878, the battery ran only twelve hours per day, and the capacity of the mill was ten tons a day.

A considerable quantity, from 10 to 15 per cent, of the silver contained in ore goes out in the slimes, which are re-worked with the ore-pulp from the battery.

The supply of water is quite sufficient for the mill.

THE STORMONT MILL

The Stormont or Rock Cliff mill, situated on the Rio Virgin, about five mile from the mines the mines, is unquestionable the best mill now working Silver Reef ores. It is provided throughout with new plant and machinery, manufactured by Messrs, Fraser, Chalmers & Co., of Chicago, whose experience and acknowledges preeminence as manufactures of this class of work are sufficient guarantee of its quality.

The mill is about 650 feet lower than the Stormont mine and as there is little or no fall in the first mile, this elevation would have to be overcome in about three anda. half. or four miles--a grade which would be very inconvenient, though not impossible, in a railroad. The mill is run by means of a 48"-diameter turbine-wheel abundantly supplied by the waters of the Rio Virgin, which are collected by a low dam across the stream one and a half miles above the mill, and conducted through an extremely well-built canal to the mill, where they have eighteen feet of head to the turbine. The mill has ten head of 650-pound stamps, which work with a fall of six inches, and make 75 to 100 drops per minute. The ore is broken in a Blake crusher (two men working twelve hours), and then falls on to the battery platform, where it is fed to the stamps by two men (twelve hour shifts). A self-feeder would save the labor of these men, and would cost but a few hundred dollars to put in. The battery discharges through forty-mesh screens, and can easily crush seven tons per day, if the pan capacity were sufficient to amalgamate It. From the battery, the pulp runs into twenty-four settling tanks men on eight-hour shifts), and from these is charged into ten pans of five feet diameter and a capacity of one and a half tons each. These pand are run nearly six hours, treating four charges per twenty-four hours. They deliver into the five settlers, which are eight feet in diameter. These run about half as fast as the pans, and the charge remains in them two and a half to three hours. The tailings run through six blanket-sluices 130 feet long, 14 wide, 5 deep, with an inclination of of 3 degrees.

The pan charge is, for twenty-five ounce ore, about one and a half per cent salt two pounds (and sometimes up to five pounds) sulphate of copper, and about 1.13 pounds of mercury; a bucketful of wood-ashes •or a little cyanide of potassium is added to cointeract the effects of candle-grease.

The steam for the pans is supplied by a tubular boiler forty-eight inches in diameter and 12 feet long.

There are two twelve-inch iron retorts, capable of holding 1000 pounds, the usual charge of which is 700 pounds.

Wood costs eight dollars a cord as against seven dollars at the mine. Mecury cost fifty cents per pound; salt, thirty dollars per ton; as against about twenty-eight dollars in Silver Reef. Teams are hired at five to seven dollars per day, including driver.

The Silver Reef ores are of fair grade, when the small cost of treating them is considered. The following date, taken fro m the books of the several mills working in the camp:

THE AVERAGE YIELD OF' SILVER REEF ORES

The ores shipped from this camp previous to the erection of mills were necessarily

of very high grade-averaging probably $15~ per ton: After the erection of mills, much of the ore was mined by tributers, who paid the mills very high milling charges, and were, consequently, obliged to sort the ore to a very high grade. This is shown by the record of the Buckeye mill, where the average for sixteen month work (4849 tons) was 44.98 ounces per ton, and where there was actually obtained,in net cash, $47.40 per ton or ore milled.

An equally high grade was milled in the Rock Cliff (Stormont) mill previous to August, 1878.

Since the Stormont Company commenced working its own mines, a much lower grade of ore has been treated; for, while a bout one fourth of all the bullion produced came from high-grade custom-ores, the average net Yield of 9893 tons milled. was 20-63 ounces per ton; or, allowing that 86 per cent of the assay value was obtained, the ore contained on an average 24 ounces per ton.

The Barbee mill treated about 5740 tons of an average assay value of 29.10 ounces, and obtained net fine silver in the bullion 23.22 ounces per ton of ore.

The Leeds Company, in 1878, milled 12,064 tons of an average assay value of 19.42 ounces, and which yielded, in bullion, 15.11 ,ounces of fine silver per ton of ore.

RECAPITULATION

	Tons Milled	Value of bullion produced in ounces fine per ton
Buckeye Mill February 1878 to January 1st 1870	4,849	44.98
Stormont Mill, September 1878 to May 1st 1879	9,893	20.63
Total and averages	14,742	28.64

From this we see that the average actual yield in fine silver of all the ores milled by these companies, and which nearly all came from their .own mines, was 28:64 ounces per ton· or allowing for a loss of 15 per cent in milling, the ores contained anaverage of 33:70 ounces per ton. The ores milled previous to the date mentioned in this statement were of much higher grade, being mostly tributers' ore.

In assuming an average value of ore to be milled hereafter as 20 ounces per ton, I am. far within the average of what these mines have produced in the past, and am providing for obtaining a much larger tonnage from the same area of ore-bearing beds, and at a much less cost per ton for mining.

Allowing loss of 13 per cent in milling, which is justified by present practice in some of the mills, and a cost of .$10 per ton for mining and milling which is fully $1 per ton above actual present cost in some cases, 20-ounce ore, at th~ present price of silver, would yield at least $10 net profit per ton. Should it be desired at any time to increase temporarily this profit to $12, $15 or even $20 per ton, it can easily be done by sorting the ore more closely, and thus bringing its average value up nearer to the average heretofore attained. I believe, however, that the permanent interests of the company: will best be served by milling a considerable proportion of that low-grade rock which is now thrown away after being mined, or is left un-mined as waste.

From this it will be perceived that the average actual yield, in fine bullion, of 14,742 ton~ of the Stormont ores treated was 28.64 ounces per ton. Since August, the average Yield has been quite as high as ever before.

THE COST OF MILLING STORMONT ORES

There were treated in the Christy M. & M. Co.'s mill, between January 1st 1878, and May 1st, 1879 14,248½ net tons of ore, of the average assay value of $32.86 2-3, or 25.42 ounces of silver, per ton. The tailings averaged $4.47 2-3 per ton. The per cent extracted was, therefore, 86.38. The bullion amounted to an average of 21.45 ounces fine per ton-equivalent to 84 per cent of the silver in the ore-and about 2.38 per cent went into the slimes now on hand, and which will be reworked. The expenses of milling this ore are shown in the table which follows:

	Per Ton
Labor and Salaries …….	$2.85
Blue-stone 2.1 lbs at 15c ……	.31
Mercury, 1.22 lbs. at 48.09c ……	.58
Salt, 25.8 lbs (?) ……..	.51
Fuel (wood, coal and charcoal) ……..	1.31
General supplies …….	.87
Hauling ……..	.73
Contingent and legal expenses …….	.41
Total	$7.57

COST OF MILLING AT THE STORMONT MILL

		Ore milled tons	Bullion produced Ounces fine	Per Ton Ounces fine	Net Cash received per ton
	1878				
September, October, November December		3,739.00	88,376.08	23.39	
	1879				
January		1,607.00	25,940.10	16.14	
February		1,335.00	26,107.28	19.55	
March		1,827.00	39,592.87	21.67	
April		1,385.00	24,017.94	17.34	
Total		9,883.00	204,044.27	20.63	$21.00

Or, allowing that 85 cents had been obtained, the ore averaged over 24 ounces per ton.

AVERAGE EXPENSES PER TONE MILLED

Labor and salaries ……	$2.97
Blue-stone (CuSO4) 1 3-4 lbs …….	.26
Mercury, 1.13 lbs. ……	.57
Salt, 20 lbs. ……..	.295
Wood and charcoal …….	.455
General Supplies …….	.12
Incidentals ……...	$5.12
TOTAL …….	$15.97
Improvement account, mine …….	1.13
Improvement account, mill ……...	2.97

COST OF MILLING BY THE LEEDS COMPANY

The Leeds Company, in 1878, milled 12,064 tons an average assay value of 19.42 ounces, and which yield, in bullion, 15.11 ounces per ton equivalent to 79.41 per cent of the silver in the ore. The expense per ton of milling was as follows:

Labor and salaries ……..	$2.20
Materials ……	3.15

Hauling ……..	.32
Assay Office …….	.07
TOTAL	$5.74

During the six months ending December 31st, 1878, this total expense average $5.05 per ton, but during the present year this has been further reduced to the following figures.

Labor ……..	$1.824
Material ……..	2.610
Sundries ……..	.056
Hauling ……	.269
January Total ……..	$4.759
February Total …….	4.776
March Total …….	4.119
April Total ……	3.828
General Average ……..	$4.370 per ton

The Chemical used per ton of ore were about:
2 lbs. blue-stone.
1 lbs. mercury.
20 lbs. salt.
A little cyanide or concentrated lye or wood-

From these figures, we are quite justified in stating that Silver Reef ores not only can be treated in a large and economically-managed mill situated near the mines, at $4.50 per ton, but are now being treated at that figure .

The reports from the superintendent a f the company's mines continue to be of the most favorable character. In our next, we shall summarize the condition, prospects, etc., of the enterprise.

(From the Engineering & Mining Journal, Feb. 7, 1880)

STORMONT MINES, SILVER REEF, UTAH

The statistics which we have published in several late numbers of the JOURNAL have shown the richness of this district, both in quantity and value of the ores, and the unexampled facility with which they are mined and the silver is extracted from them. No doubt, the most valuable property worked in the district is that owned by the Stormont Company. Since the date of 0 ur examination of this property, in June last, there have been large developments in the mines, and additions have been made to the mill. The work on the mines has confirmed the statements made by us concerning the continuation 0.£ the ore-bearing beds and the uniformity of their yield, so that, while, some $300,000 worth of ore has been extracted from the mines since our examination, the reverses are at present very much greater than they then were. New hoisting-engines and pumps have been provided for the Buckeye mine, a tunnel has been carried through the reef in the Thompson & McNally claims, and levels have been driven exposing large quantities of 0 re in each of these mines. In the mill, three amalgamation pans, two settlers, two retorts, and other appliances have been added, by which the capacity has been increased from 60 to about 80 tons per day, and the yield during 28 days' running time in January amounted to over $48,000, assay value. This, as the production of a ten-stamp mill, running on about 25-oz. ore, is

very remarkable, and must have left a profit of over $20,000. The Stormont Company has now fairly entered upon its dividend period d, and from personal knowledge, as well as from developments made since our visit, we have every confidence in its remaining for many years a dividend-paying concern. The high standing of the directors in this city, and the known ability and trustworthiness of its present Superintendent, Mr. Charles M. Rolker, give the greatest confidence in the future of the enterprise. The mines and works will not only be skillfully managed, but the stockholder will have the assurance that they will receive all they are entitled *to,* and will be fairly and honorably treated. It is by enterprises of this kind that the permanent interest in mining will be maintained and this gr eat industry placed upon its proper footing. The first quarterly dividend of the company will be paid on the 16th instant, and amounts to $45,000, being at the rate of 30 cents a share. From the present outlook, with even the present mining facilities, this amount will be increased in future, while no doubt the company will procure additional facilities as the mines become still more developed.

THE SILVER SANDSTONE FORMATION AT SILVER REEF, UTAH

The Silver Reef Miner has suddenly developed into a geological critic, and with a stroke of its pen demonstrates "to all intelligent and unprejudiced minds" that the two reefs of silver-bearing sandstone at Silver Reef are but parts of the same beds dislocated by a great fault.

The geologic opinions of our esteemed contemporary are, to say the least, misty; and its agreement or disagreement with the conclusions arrived at by Mr. Rothwell, after the most careful investigation, and stated in his report on the Stormont Company's property, is ,of so little consequence as not to call for any remark on our part; but the Miner sees fit to cite in support.()f its "fault theory" some well-known experts. It says:-

"Mr. Louis Janin, who, as a mining expert, has few equals and no superior, expresses the opinion unqualifiedly that the Buckeye Reef is a faulted and ' dislocated portion of the White Reef. Mr. Charles Hoffman organized the Leeds Mining Company was 0 man, the trusted mining expert who organized the Leeds Mining Company, was of the same opinion. G. G. Williams, M. E., former Superintendent of the Leeds Company mines was also of the opinion, while Mr. A. G. Bemis, the former able Superintendent of the Stormont Company's property, is unswerving in the belief that the Buckeye is but a faulted portion of the White Reef."

It is somewhat unfortunate for our contemporary that Mr. Janin, who happens to be at present in this city, informs us that, never having given the subject that close examination which he considered necessary, he has no "unqualified" or definite opinion upon the subject. Mr. Williams, who probably gave the subject more attention than any other expert previous to Mr. Rothwell's examination, arrived at the conclusion that there is not fault, but that the reefs are part of different beds. We are not aware of Mr. Hoffman's opinion; and as Mr. Bemis is not in any sense an expert, his opinion, whatever it may be, is of little consequence.

The results of Mr. Rothwell's examination mentioned, and need no further remark:

"The remarkable general resemblance between the beds of these two reef; the curious coincidence of a series of red and gray sandstones and sandy shales, with bands of greenish and red clay shales of the most marked characteristics occurring in precisely the same stratigraphical order in each reef, and, above all, the occurrence of fossil plants and silver ores in certain beds of similar appearance in each, naturally lead to the supposition that theses reefs are composed of the same bed broken off between the reefs by a great fault. A closer-examination, however, reveals a certain dissimilarity between the ore-bearing bed, and the most carful search has failed to find any data to confirm the theory of a break of fault between the reefs. I have, therefore, concluded that the beds forming the Buckeye Reef run under the White Reef, etc.

It was not, however, to defend these views that we have noticed the remarks of the Miner. That paper has of late been waging war with the Christy Company, and it has occurred to the brilliant and upright genius who "runs" our contemporary that the double-reef theory adopted by Mr. Rothwell is favorable to the property of the Christy Company, and that consequently Mr. Rothwell must have manufactured it to order for so much money—according to the more or less usual custom in some Western mining camps. It could not affect the ingenuity of the theory, nor detract from the courtesy and delicate sense of honor and honesty which dictate this infamous supposition, to say that Mr. Rothwell did not examine or report professionally upon the Christy Company's mines, or do any other professional work for that company.

It appears to us, however, that our contemporary is entirely mistaken in its appreciation of the effect of its "fault" theory upon the value of this and other property on the Buckeye Reef; for if there were in reality a fault, and the silver-bearing beds of the White Reef were pare of those in the Buckeye Reef, we should have a positive demonstration of the richness of the Buckeye beds down to the line of assumed fault, which would in most places, be over one thousand feet. No such demonstration now exists, and we should be inclined to consider the establishment of the fault theory as a benefit and not a disadvantage to mines situated on the Buckeye Reef. Of course, since the question, whether it were an advantage or dis-advantage to any particular property has nothing to do with the facts in the case, if had no bearing whatever on the conclusions of Mr. Rothwell or the other experts who examined the district.

SILVER REEF NOTES FROM PROCTOR

Silver Reef area ... contains only known deposit of commercial ore, in sandstone in the U.S. Yielded almost eight million in silver during decade including late seventies and early 1800's from some twenty nine mines distributed through area of two square miles. Furthermore, minerals containing copper, and vanadium, and uranium are associated with the silver minerals So' that it is believed that the metals of the Silver Reef sand stones were primary constituents, of original volcanic tuffo Chinle formation period. These metals were dissolved and are mechanically transported by streams which were eroding the tuffaceieus sediments. These were deposited with the sand stones and shales of the Silver Reef area. Further concentration of the metals in the Silver Reef sandstone, was by (1) solution in circulating underground waters and (2) by precipitation because of contact with entombed plant debris and associated bacteria. A

new interpretation of structural features should encourage additional prospecting in Silver Reef area, not only for metals, but for petroleum-interesting enough for research.

Rainfall at Andersen's ranch, two miles north, averaged 12.69 inches over a twenty-seven month period. By month January.

January, 1.74; February, 1.94; March, 1.31; April, 1.04; May, 0.65; June, 0.31;

July, 0.75; August, 0.92; September, 0.59; October, 1.02; November 0.77; December~

1.67.

The old town lies on boulder strewn terrace at approximately 4,000 ft. elevation. The mines themselves are on the fans and dip slopes of ridges and ledge-making sandstone and ranging in elevation from 3600 ft. to' 4000 ft. elevation.

Fossilthashis reeds, parts of petrified trees and, rarely,, logs of thirty ft. in length, are found in the Leeds sand stone. No other types of fossils have been .found. In the Tecumseh sand stone thin bedded to' massive, lavender in color impression of rushes and reeds occur on the bedding surfaces. On the nose .of the Virgin anticline, the Tecumseh is the most prominent bed.

Silver Reef Sand stone-fine texture and local abundance of fossil remains of rushes and reeds and parts of trees, are of special note. It is concluded that the sand stone member was deposited by streams. The former stream or streams flowed 30’ W. Locally south east of the Savage mine the direction changes to' almost eastward and southward.

Broad, open folds constitute the main structural features in the Leeds area. This most prominent fold, the Virgin anticline, may be traced for more than 18 miles southwest ward. Subsidiary folds to the west of the major folds also occur, but both thrust-faulting and normal faulting have modified the surface expression of these folds.

The Virgin anticline trends approximately 30’ – 40’ north for a total distance of at least 18 miles from a point south of St. George to northeast of Leeds, where it plunges northward under a cover of quaternary alluvium and basalt, south and west of Toquerville. The limb dips from 18-36 degrees. The west limb of the Virgin anticline, couth and west of Leeds, has been somewhat modified by faulting, and partly covered by alluvium.

Subsidiary flexures occur on the northwest flank of the Virgin anticline. The axis of an open syncline trendsnorth 30’ E. to north and south and lies west of Leeds. A few hundred feet further west paralled trending anticline plunges to the north. Both folds gradually coalesce southward with the larger Virgin anticline. The Leeds anticline is well exposed on Tecumseh Hill, just south of the old town of Silver Reef.

Erosion has etched out the more resistant sandstone and the fold is expressed typographically. Here the axis trends north-south and the fold plunges approximately 15 degrees

to the north under the bolder alluvium near the Tecumseh mine. The west Buckeye Reef form the west line of the fold, and trends approximately, 34' north east, 20' west.

Local variations of strike and dip occur.

The Leeds syncline form the southern part of the Leeds Valley. Here, enfolded Chinle Shales and sandstone have weathered to the rich sandy loam of the Valley floor. The limbs of the fold constitute the west limb of the Virgin anticline, and the east limb of the Leeds anticline respectively. The fold is open, and is as much as 5000 ft. in width.

The many joints in the district preceded both the thrust and normal faults, yet the pattern on the individual Reefs, do not match when the beds are restored to a horizontal position to a time before the normal and thrust faulting began, or occurred. The change in pattern corresponding with a change in structure of the different Reefs, suggest that the joints were formed at the time of the folding of the rocks, and are the result of the same de-formational stresses. Although faults are not abundant on the Silver Reef District, the few that do occur are of importance both structurally and economically. The faults are almost wholly Chinle formation and are especially distinctive where they cut the resistant Silver Reef sandstone member. Most of the faults are of the pivotal type so the amount of displacement varies along the strike.

Briefly summarized there, the evidence strongly suggests a over thrust fault between the Buckeye and White Reefs. The strike of the fault approximates that of the beds, and the trace can be followed over a distance of six miles.

Gardner suggest that folding, which probably included the formation of the Virgin anticline, occurred during the Laramide revolution in late Cretacesus or early Tertiary times. These faults may be contemporaneous, or post-fold in age. It appears that two periods of normal faulting occurred in the district.

Which, age of faulting corresponds, with the more numerous faults on the Virgin anticline nose, is not known.

The largest ore bodies occurred on the Buckeye Reef. Most of them were roughly elongated in plan, and lens-like in section. The grade of the ore varied from one locality to another, Silver Chloride practically constituted the only ore mineral. The silver deposits of commercial among were restricted to the Silver Reef member of the Chnle formation. Assays indicate that a very minor amount of silver is present in the rocks, both above and below it.

Summary (of broad discussion appertaining toe the disposition of the silver.) The occurrence of secondary ore, mineral in eh Silver Reef sandstones is the result of:

(A) Solution of the former ore mineral deposited as replacements of plant materials and as probably mineral particles in the sandstone. (B) Re-precipitation of, or, as new compounds

partly filling natural moulds left by decomposing plant substances localized along the bedding planes, and Triassic stream channels in the Silver Reef sandstones.

The absences of associated intrusive rocks and lack of silicification, serietization, typical ore textures, and other features considered distinctive of hypo-gean disposition strongly suggest that the original minerals of the deposit did not have any hypo-gean origin.

The Silver Reef metals were probably dissolved mainly as sulphates, or eroded away as actual minute mineral particles, or both from the Triassic volcanic tuffs, now altered to bentonites, and the metals transported to the area of the mining district by Triassic stream and underground waters. Here the compounds in solution were precipitated by decaying plants associated bacteria, and the mineral particles were deposited as sulfides from sulphate solutions under strong reducing conditions brought about by: (a) generation of hydrogen sulphide though bacterial action on the vegetation, of (b) the direct or indirect action of the sulphate reducing bacteria, associated with the plant remains.

In some places absorption on clay galls or on finely divided Carbonaceous particles may have been important in localizing the minerals. The known partio-al paragenetic sequence suggest that pyrite was one of the first minerals to precipitate from solution and that it later may have acted as a precipitant of Calcacite and other sulfide minerals. With uplift and erosion of the area the circulation of ground water brought about the oxidation of pyrite, and solution of many other sulfides. These were carried downward and, by a process of secondary enrichment, the present deposits were formed.

Most of the important mines of the district were under company management during the productive period of the camp. All of them were shallow, the deepest extending 330 ft. below the surface. Water presented no problem in the mines on the White Reef, but all the mines just north of the California, and to the south of the Buckeye Reef, had to be pumped continually.

Hartley Shales and Sandstones—On the east Reef, the arlcose sandstones crop out along eh back slope fo the Shinarump hogback where many trees and some coal-like material occur in it. Two solicified trees over twenty feet in length, and tow and one-half fee in diameter were found in the sandstone of Leeds. Remains of the old tree trunks, now completely solicified occur in the east Reef north of the Duffin, just under shale.

Fire clay Hill Benton . . shales . . . Best exposures are on the east Reef, 1000 ft. above Duffin mine. Toward the base calcareous concretions, and geodes as much as six inches in diameter occur.

Fossil rushes, reedy parts of petrified trees, and rarely, logs 30 ft. in length are found in Leeds sandstone.

Coming back to the history: John Kemple, a prospector and assayer cam from Montana to Harrisburg in 1866 or 1869. (I find as many sources giving one date as the other.) Library of Congress gives Kemples' discovery date 1866. He found, on the northwest side of the White Reef, a rock so rich in Horn Silver that it assayed $17,000.00 per ton. The rock was only float, and he could never find where it came from. Digging some prospect holes, he found a soap-stone formation that carried small amounts of silver. He filled up the holes dug and went to Nevada and Arizona.

Returning to Harrisburg in 1874, he was instrumental in organizing the Harrisburg Mining District, with Orson Adams as recorder. Prospection seems to have taken on considerable interest throughout the community.

Elijah Thomas of Leeds, and a partner, John S. Ferris, found some rich ore in place, also on the northwest side of the White Reef. They located a claim, naming it The Leeds, and Elijah Thomas gave some samples of his ore to J. B. Francis, then living in Kanarra. Francis, in turn sent them to Walker Brothers in Salt Lake City, who outfitted and sent down William Tecumseh Barbee, Thomas McNally and Edward Maynard. This was in June 1875, and the three men prospected for a time, then Barbee and McNally took a trip to Salt Lake City, returning in October, (1875) and bringing with them a hew assaying outfit, blacksmith equipment, a large stock of food, and three new men, Pete McCelve, Jack Sproat, and Bill Lusk, the latter a blacksmith. The three original men (Barbee, Maynard and McNally) had found some ore on the White Reef as early as August 1875, and had located 22 claims. Barbee wrote to the Salt Lake Tribune in August of their find, and called the White Reef the "Pride of the West Lode." In November, 1875, after the trip to Salt Lake, Barbee chanced along on the Buckeye Reef, a Reef east of the White Reef, after Joe and Alec McCleve had hauled a wagon loaded with wood. Where their wheels had skidded and torn away the loose earth, Barbee found exposed a deposit of rich silver chloride and Horn Silver. He located it, making his claim the Tecumseh, and renamed the Buckeye Reef Tecumseh Hill. To this day it is known by both names.

Writing to the Salt Lake Tribune on December 13,1875, he tells of his find, mentioning Tecumseh Hill, and stating that the vein was small but very rich and easily worked.

A sandy flat lay to the east of the end of the hill. This he named Bonanza Flat, and he laid out a town on the flat, calling it Bonanza City, referring to it in his letters as the Metropolis-to-be of Southern Utah. Three weeks after he laid his town out it boasted of having a blacksmith shop, assay office, sampling room, boarding house, and probably a bunk house or two, all with a population of 12 souls. As soon as possible after the discovery of the Tecumseh he shipped 10 tons of better than $500.00 per ton ore to Salt Lake City, receiving $5700.00 for it, after which he shipped to both Salt Lake City and Pioche, Nevada. One report gives the 10 tons of ore shipped to Salt Lake City as bringing Barbee $7000.00 rather than the $5700.00 given here. Freight was less to Pioche, as was also milling costs, therefore, his returns were greater. He made shipments of $300.00 and $400.00 ore to Pioche in 1876 so it is small wonder that the Pioche Stampede took place. Two men to haul this high grade ore for Barbee were Chas. Westover Sr. of Washington and his son George. At the time, George was eleven years old. Each drove a well loaded wagon.

In a letter dated Bonanza City, February 7, 1876, he wrote, "This sandstone country beats all the boys, and it is amusing to see how excited they get when they go around and see the sheets of silver which are exposed all over the different reefs. This is the most unfavorable looking country for mines that I have ever seen in all of my varied mining experiences, but, as the mines are here, what are the rock sharps going to do about it?"

Apostle Erastus Snow, in charge of Dixie colonization for the Latter-day Saint Church, had prayed "God's blessings on Brother Barbee for opening up the mines" at a Sunday church service in the St George Tabernacle. Indeed, it was a propitious time for such a thing to happen, to help alleviate the poverty and hardships that existed at the time in Dixie.

Miners rushed in like swarming bees, most of them coming from Pioche and its environ, mining in that region being at a very low level at the time.

Barbee hoped to sell his land on Bonanza Flat at boom prices, but little Hyrum Jacobs, a merchant from Pioche who had loaded his entire stock on to a light wagon, and had rushed in with the "Pioche Stampede," refused to pay the price, went upon the boulder paved higher ground, set up his store, and called it Silver Reef. The name stuck, and on the higher ground the town of Silver Reef mushroomed into existence. Pioche miners, knowing more of mining ways than local locators, "jumped" the claims on the more unsuspecting Mormons, and so Elijah Thomas and John S. Ferris lost their rich "Leeds" claim. The two Piochers who, jumped it, selling it for $30,000.00, and days were soon to come when it produced that much in less than a month.

By February 1877 Silver Reef had a post office, a newspaper, (The Silver Reef Echo), the Rice Bank, and soon Wells Fargo and Co. opened their Express Office and Bank. Stores sprang up, as did saloons and dance halls. Pete and Leo Welte operated a brewery, the remains of which can be viewed as one drops down into the Old Quail Creek channel above Silver Reef, when en-route to Oak Grove. There sprang up also boarding houses, stores, and hotels.

LUMBER FOR SILVER REEF

Simultaneously with the "Pioche Stampede" in 1876-1877 Lorenzo Dow Watson, a pioneer to Parowan, Utah, owned and operated a large saw mill in Parowan Canyon. Using forethought he decided to make his saw mill do something for him. Accordingly, he chose two men, took them with him, sawed lumber products in large quantities, and established a lumber yard in that brand new camp, possibly preceding either Panguitch or Pine Valley as a source of lumber, shingles, mine timbers, etc. The three men hired others to freight for them, and Watson moved his family to Silver Reef, where he, personally, operated his store.

His two daughters, 87 year old Vivien W. Woodbury, and 85 year old Alma W. McGregor recall incidents of their lives in that strange environment.

| In addition to these sources, local men got mine timbers out on our side of Pine Valley Mountain, and also built and operated a charcoal burning kiln, which still stands intact some 2 or 3 miles above Silver Reef in our water canyon.

History shows 640 mining claims recorded, by the books of the Harrisburg Mining District However there were only 29 really large, paying mines supposed to have been in operation at once. They were grouped as to location as follows, and the grouping will show that around 37 mines were patented. I do not know which 29 of the 37 were in operation at the same time.

White Reef: Scott, Thompson, McNally, Wonder, Leeds group 4 mines, Barbee and Walker, Pride of the West.

Buckeye Reef: Emily Jane, Stormont, Buckeye, California (2), Maggie Lode, Last Chance, Savage, Kinner, Storm King, Tecumseh, Manhattan, Silver Flat, Coolidge, Silver Crown, Chloride Chief, Silver Point, Silverman 1, 2 and 3.

East Reef: Vanderbilt, Duffin, Dykes and Stapeley, Toquerville, Maud, Dixie.

These 29 mines were gradually divided roughly into four groups, owned by four companies. The companies were: The Leeds, Barbee & Walker Co., The Christy Co., and The Stormont Co.

The Leeds and Christy Companies were financed by California and Nevada Interests. The Stormont, New York capital. Barbee & Walker, their own capital. Barbee sold some of his properties lor capital to work others. As some of these mines were shifted now and then, as to ownership, I suppose no line-up of ownership would last very long. Also, occasionally, when a mine changed hands the name was changed. One writer thinks that, through the years, 150 claims have paid off.

The mills at a glance:

Name	**Place**	**Started Operations**	**Capital**	**Ceased Operations**
Leeds	Back of White Reef	February 1877	5-stamp, steam	Con. to leaching plant 1880
Buckeye or Little Mill	Below Leeds in what is now Ed McMullin	Early in 1877	3-stamp steam	June 1879. Dismantled and taken to be part of Stormont

	Pasture			
Barbee & Walker	On east side of northern part of White Reef	March 1878; February 27, 1880 it resumed operations	5-stamp steam	Burned down June 23. Reopened 1879. Operated by McQuarrie under Woolley, Lund & Judd, 1892 until 1898. Operated by J. A. Crecilius for Brundage Co., 1902 to 1908
Christy	East of business section of Silver Reef	January 1878	5-stamp steam	Christy ceased operations March 1889
Stormont	On Virgin River north of Harrisburg Canyon	July, 1878	10-stamp Water Power operated sluice boxes to recover silver lost in tailings	March 1887 was date of closing of Stormont Mill

In order to build the Barbee-Walker Mill, Barbee sold his Buckeye claims to the Stormont Company, who first milled them at the Pioneer Mill. The Buckeye-Stormont ores were hauled over the hill southwest of Leeds to the Pioneer Mill. After it was dismantled they were still hauled over that hill, and up through Leeds streets, around point of our East Mountain, and on down to the Virgin River.

On the East, or Silver Reef, the production record of the mines is as follows:
Vanderbilt-20 tons of $100.00 ore from 60 ft. incline.
Duffin-hundreds of 1000 tons of $80.00 to $100.00 ore from 900 ft. of openings.
Pinkham & Dodge (White Reef)-large bodies of $16.00 ore, none shipped, 727 ft. of openings.
Toquerville-several hundred tons of ore shipped, average value $50.00, 1000 ft. openings.
Maud-33,986 of ore assaying $30.00 to $100.00, 440 ft. of openings.
Dixie-400 tons of $35.00 ore, 100 ft of openings.
Gisborn (White Reef)-500 tons of $20.00 to $25.00 ore.
Emily Jane (Buckeye Reef)-280 tons $20 00 to $30.00 ore, limited development

I am wondering if litigation tied up operations of Pinkham & Dodge and Emily Jane mines.

Regret I have no such data as above for other mines, but some companies seem to have not put out much information. However, Mark Pendleton writes that the Buckeye Mine was operated by leasers, for a time, and the ores were worked in the Pioneer Mill, averaging $400.00. From April 1877 to last of June 1877, a 1000 ounce brick was produced daily, and delivered to Wells Fargo & Co. Express, averaging $34,500.00 a month.

In 1878 the Christy Company milled 10,249 tons that only went $29.00 per ton, and milling expenses amounted to $13.00 per ton.

While silver brought a good price, and the ore was high grade, and easily mined everything went fine. But mines on the Buckeye Reef started filling with water, silver slumped in price. Gradually the high grade ore was being exhausted, mining and milling companies lost dividends, and demanded slashes in wages. Over 300 miners formed a union and struck in protest, when the Stormont Company, through its head representative, Colonel W. I. Allen, gave notice of a reduction of 12 1/2 per cent in wages.

After a month, and no change by the company, the union demanded that Colonel Allen leave camp, and a detachment of the members escorted him several miles out of Silver Reef. Allen appealed to the Federal District Court in Beaver. Indictments were issued against 40 miners and U. S. Marshal Arthur Pratt, assisted by A. P. Hardy, Sheriff of Washington County, with a posse of about 25 men, made a surprise raid and arrested 36 of the 40 men, who were taken to Beaver to stand trial. David McMullin and Hyrum Leany were members of A. P. Hardy's posse. The ring leaders were jailed; the mines and mills reopened at reduced wages. Experienced miners and mill hands left camp, leaving the company only the choice of employing inexperienced men. Silver continued to decline, some of the stores that had extended credit to the strikers closed their doors and both sides had lost the strike. By 1891 all companies had ceased operations. Besides all other losses a $3000.00 per month freighting business ceased to exit. It was indeed a sad climax to the happy times preceding.

Early in 1892 R. G. McQuarrie (an expert Amalgamator), and Albert Grant obtained a lease on the Christy Mines and mills. They sub-leased to independent individuals called chloriders, and when they had 400 tons of ore on the platform the mill started. Silver had declined 15 cents more per ounce while operations were in progress, so the prospective profits were not realized, and the Christy Mall was closed for good.

Recovery of silver by leaching processes was done to some extent during the productive period of the camp, but never with any great success, due to difficulties arising from the copper content in some of the ores.

The Kemple family bought and mined a fifth, and unpatented mine of the Leeds group. Later this mine was bought and patented by R. G. McQuarrie, then it was sold to and worked by J. A. Crecileus, E. C. Olsen and August Kuhn. It is now a Colbath property.

John Kemple, Jr. (now deceased) told me that his father was the last to try the leaching of the old tailing dump below the Leeds Mill. He also leached low grade Christy ore, while the Christy milled his high grade. He could not make a "go" of it, and turned his holdings over to Orson Adams. If Adams ever did anything about them I have not heard of it. Nesbitt of Pioche had early tried, and failed. Kemple left Silver Reef after closing of Christy.

Jerry Deady of Harrisburg operated a little plant farther down Quail Creek Channel, crushing his ore with a revolving stone operated by water power, and called an arrastra. Francis Hartley says he made some money.

There was also a leaching plant just over the hill back of Leeds, along our old trail to Silver Reef. It left a large body of tailings which men and the winds soon leveled, and it is supposed to have made money before the slump in silver cut off the profits.

In 1893 Wooley, Lund and Judd obtained control over the Barbee and Walker mine and mill. Robert G. McQuarrie was an experienced amalgamator, and a good judge of ore. He was made manager, and placed in charge of their store, too. The mill was converted into a water driven plant, and most of the mill runs were made at seasons when the farmers were not using the stream for irrigation. This greatly reduced production prices, and leasers and chloriders would take out enough ore for a run, then there would be this run, and then more ore taken out.

A few men from Leeds, and a few of the old Silver Reefers were the ones to do this, and kept things going. Francis Hartley, one of the miners from Leeds, says he worked for 25 years, first on leases, and then finally on his own ground, on the Cobb claim, an extension of the old Thompson-McNally patented mine.

In 1898 Brundage and Company of Cleveland, Ohio bought out the Wooley, Lund and Judd interests, thinking they could revive the old camp, and do something on a big scale. Silver prices continued to decline, and the company could not do as it had planned.

J. A. Crecilius was manager for the Brundage Company, and he hung on here until 1908, at least. In these last days Silver Reef was merely part of the Leeds economy. Nothing big was done. The men of Leeds, and a few who seemed unable to let go, leased claims, or bought out interests, and would get out enough ore for two mill runs a year. There would be from 100 to 400 tons of ore, and it would be classified as first and. second class ore. Francis Hartley and Charles Angell, (son of Solomon Angell of early Leeds History) worked together for years. In about 1901 or 1902 they came upon a nice bit of ore and took out one of the best runs ever taken out by the so called leasers or chloriders. The leasers were of ten-called chloriders because the ore they mined was chloride of silver.

Names familiar to Silver Reef history of the R. G. McQuarrie Regime and on down to the Swan Song of the Brundage Company in 1908 are:

R. G. McQuarrie and son Bert, F. S. and William Hamilton, Mr. Hartman and sons William and Albert, Arthur Nicholls, Sr., and sons William, Charles, Thomas and Arthur Jr., Matt Wicks, W. D. Newton, and son Isaac, Richard Whitehouse, William Huntley, R. S. Harris, A. M. Fleming, David Forsha, Peter Hanson, E. C. Olsen, August Kuhn, James Cobb, David McMullin, Oscar McMullin, Francis Hartley, Charles Angell, J. A. Crecilius, R. J. Rickards, Dan Parker, Johnnie Kemple, Jr., son of the original John Kemple, who was also the original finder of the silver in sandstone, lives in St. George. His wife is the youngest daughter of Charles Connally of Leeds' early days, and, of all of these, fewer than a dozen are alive.

In 1903 I rode to Cedar City with Matt Wicks. He was taking the bullion from a mill run to be expressed from Cedar City to Salt Lake City. Each leaser's bullion, or each pair of partners' bullion was in a bar to itself, and the bars varied in size from about 1100 ozs. to 1700 ozs., Troy Weight, and I think there were 17 of these bars. There was never again such a large mill run. A picture was taken of the men from Silver Reef who had ore run through. The men from Leeds who had had ore run through, and who also worked at the mill are not in the picture. Many people think of this as the last mill run, but that is not so, as a few men who worked on with Mr. Crecilius took out ore, and had some small runs. Mr. Crecilius and the Brundage interests were very anxious to make a go of things, but they lost, instead of made money.

The very last mill run was made in the last days of the Crecilius stay here. Crecilius and

Francis Hartley worked together taking the ore out of Hartley's mine. They sorted it, transported it to the mill themselves, then operated the mill themselves. This was about 1908, and definitely marks the end of the Old Silver Reef.

Mr. Alec W. Colbath, son of G. U. Colbath, whose report on the Stormont Mine appears elsewhere in this sketch, was interested in Silver Reef. With the raise in the price of silver brought about by World War I, he raised $160,000.00 in 1916, and bought up most of the Silver Reef properties of the western part of the reefs, including practically all of the patented mines of the Tecumseh Hill, Buckeye Reef and the White Reef. He organized these properties into The Silver Reef Consolidated Mining Company, and leased part of his property to a New York Company in 1920.

The building of a large, new mill was contemplated, so the old Barbee and Walker Mill was torn down and sold. Before operations got very far the price of silver dropped, and the new mill was not built.

However, in 1928 the American Smelting and Refining Company purchased 51 per cent of the Colbath's Company's Stock. Mr. Colbath and the A. S. & R. Co. did a lot of development work, Mr. Colbath in the four mines in the Leeds group, The A. S. & R. Co. in the Old Buckeye Reef properties.

The A. S. & R. Co. sank a three-compartment 540 ft shaft at the base of the White Reef. Drifts, cross-cuts, and raises were made at the 300 ft level, and the 460 ft. level to connect with the old Leeds workings.

When all of this development work had been done, and all was ready to start taking out ore, the price of silver dropped to 26 cents. Once more things came to a stand still.

With all his reverses, Mr. Colbath has never given up. He keeps his faith in an all-wise creator, and the ultimate resurrection of Silver Reef.

In my studying, I have found that the highest peak of production of silver was 995,315 ounces (just 4,685 ounces short of 1,000,000 ounces) in 1879. In 1889 the production was 134,000 ounces, and the next year (1890) only 60,000 ounces.

Total output has been estimated all the way from about $10,000,000 to $25,000,000. Mr. Colbath and others with whom I have talked, feel that, had or could, complete records been kept, the figure would not fall far short of $18,000,000. But this much we do know:

Silver Reef, with all its riddles, came as a great and timely blessing to Southern Utah.

WORK DONE BY LEEDS MEN AT OR FOR SILVER BEEF

Ira S. McMullin did mason work on stone buildings, mostly stores and on mill furnaces or retorts, at which he was especially good, Mr. Colbath tells me that George Brooks cut the stone for the beautiful work in the front of the Wells Fargo Co. Building, and that Ira McMullin laid the stones, having quite a reputation for his round arch work. Mrs. Mary Olsen told above to Mr. Colbath, saying that she saw these men at work.

David McMullin was a very busy blacksmith in the ore hauling days. He did much work keeping ore wagons in repair. After the date when R. G. McQuarrie "took over" he worked on leases (mining) and in the mill.

E. C. Olsen did every type of work there was to be done about the mining and milling processes. The same can be said of Charles Angell Sr., Francis Hartley, August Kuhn, Albert and Willie Hartman, Merwin Hartman, and Oscar McMullin. Eli McMullin worked in mines, as also did Karl McMullin, in the Colbath era.

Marion Paris, living in Harrisburg back in the 1880's, owned ore wagons and teams. He and Don Fuller, driving one outfit for him, drove ore teams from the Buckeye and Stormont mines to the Stormont mill for a number of years.

Donald Fuller hauled ore during the days of the leasers as long as there was ore to haul. The Stirling family also owned and operated ore hauling outfits.

Riley Savage, then a resident of Toquerville, confined his Silver Reef activities to fruit and berry production and distribution.

Everyone in Leeds raised farm produce for sales there, as I presume nearly every farmer in this and nearby counties did. Santa Clara farmers stole the. Leeds tomato market by bringing in wagons loaded with them at 2 cents per pound, whereas the Leeds people had gotten 10 cents down to 6 cents, early to late.

The Nicholls family, father, mother, a daughter, and four sons, came here from England,

and lived here throughout Silver Reef history, father and sons working in mines and mills. The daughter married J. G. Wilder, attorney. They lived in Silver Reef, and raised a family. After the death of the old camp the families, excepting William, moved to Wyoming. William married

Daisy Hartman of Silver Reef, and lived in Leeds or Silver Reef up until within the present decade. His large family, he and his wife, all now reside in Nevada or California. William Nicholls is now dead and was buried in Leeds, September, 1951. He passed away in California.

THE GRIND STONE STORY

Digressing for a bit, will give my father's version of the Grind Stone Story, which has had such circulation throughout the years. Can say that if anyone would know the truth, it would be my father, with his humorously inquisitive nature, plus his absolute truthfulness, and plus his intimate knowledge of both camps. Alec Colbath and John Kemple Jr. both certified his story to me.

He said the grind stones were made here in Leeds, and his brother," Oscar, said Alma Angell made them. This is probably true, because it is well known that Alma Angell made and sold grind stones. They were taken to Pioche by Jennings, later the owner of the Jennings Store, which had been the Birch Store. (In Leeds).

J. R. Richards, another old timer, tells of another who made and sold grind stones, hauling some of them to Pioche. This was Isaac Duffin of Toquerville.

Resuming father's narrative, a fragment of one of Jennings' stones was given to "metaliferous Murphy" in a gesture of contempt. Murphy was a young graduate geologist and assayer from some mining school, and had come to Pioche to launch his career. He found values and metals in many rocks the old rock-sharps were not able to find, and therefore, he was belittled by the pranksters and wiseacres.

Taking the sandstone fragment with him, he assayed it, finding silver chloride and horn silver.

Oh, the jeers that greeted his announcement! Poor Murphy left Pioche, no doubt trailing the grind stone to Leeds, as father said he came here. The pranksters, dumb founded, were resourceful though, and could not let themselves down. They turned their jibes toward the Mormon settlers, to show up the utter stupidity of those hard-working colonizers. But now you know that Silver Reef was not discovered in Pioche, Nevada, as those pranksters claimed, and the Murphy event happened after Silver Reef was a "going" concern.

In 1919, while teaching not far from Pioche, I saw an old lavender-pink sandstone-Buckeye sandstone-grind stone. Its owner was berating it because of its lopsided, uneven surface, and the poor sharpening qualities it possessed-could not sharpen the mowing machine knives for bumps in its surface. I looked. What did I see?? Silver nuggets like currants or small cherries sticking out of its cutting surface!

Fool that I was, I did not think of buying it, or getting the farmer another stone. Later it got broken, and I sent my father 3 or 4 lb. wedge that showed three of the nuggets.

It is no longer here, and my sister, Lizzie, told me that father gave it to a man who came here investigating Silver Reef.

May be that it is now in some exhibit, proclaiming the truth of the Grind Stone Story, ironically.

URANIUM ORE IN THE LEEDS, HARRISBURG MINING DISTRICT, WASHINGTON COUNTY, UTAH

Carnotite uranium mineral was discovered on Silver Reef in the Leeds, Harrisburg mining district, and reported by B. S. Butler of the United States Geological Survey in 1880.

The district was not examined thoroughly for uranium at that time, due to the lack of familiarity with this class of ore. Dr. Butler (Dr. B. S. Butler was probably quoting D. B. Huntley, who visited and wrote of Silver Reef in the early 1880's.) advised that future mine operators in the district should keep in mind the possibilities of finding uranium ore in commercial quantities.

In 1881, while working with silver ore mined on Tecumseh Hill at Silver Reef the melter at Christy Mill noticed small yellow particles in the concentrates, and gave some samples to a young man connected with the laboratory of Hamilton College in New York. He had an analysis made of the samples which proved to be phosphate of uranium. Reported by D. B. .Huntley, 1884.

C. M. Rolker found what he identified as autunite in a mine operated by Lester Gad, an Englishman, during the early 1880's.

While prospecting and mining for silver several small lenses of uranium ore have been found in and around the numerous diggings from Leeds east and south to the Virgin River.

The first commercial uranium ore was mined and shipped by Francis M. Willis, a leaser on Silver Reef in 1950. Work continues to date, July 1951, and approximately two hundred tons of above average carnotite uranium ore has been shipped from this lease.

Willard McMullin and Walter Eagar are shipping uranium ore from their adjoining property, worked by leasers.

Many of the uranium claims in the district are leased, or are under option.

Considerable difficulty was encountered in 1950 to locate the old diggings once known as the Gad shaft, west of the Silver Reef mines. This was accomplished after extensive investigation. Flourescent lamps were used on the old dump and around the caved-in shaft. Several tests were made but no indication of autunite noted.

THE QUICK AND THE DEAD

It begins to look like the Leeds, Harrisburg Mining District in Washington County, Utah may awaken to activity equal to the by-gone silver days and again become one of Utah's great mineral producing areas.

Mr. and Mrs. F. M. Willis

Small shipments of uranium ore from the Silver Reef in 1950, and examinations of the mineral prospects by U.S. Geological Survey personnel have led to an exploration program by government agencies. Core-drilling is being jointly controlled by the U.S. Atomic Energy Commission and the Geological Survey. A drill is currently (June 1951) in operation on Buckeye Reef and was supplied by the U.S. Bureau of Mines.

Vanadium, used in the hardening of steel, is found along with the uranium and sufficient quantities to pay for the milling of the ores at plants handling them under U.S. Atomic Energy Commission directives.

From reading I gain that what was reported as autunite back in 1880 and later in the 1880's could have been, and probably was carnotite.

Frank Eagar and Earl Cox have leased the Willard McMullin and Walter Eagar claim, adjacent to the Willis lease. They are also working the old Vanderbilt Mine down on the Rio Virgin as leasers and half owners.

In this old mine the best testing, and the largest deposits in sight of uranium ores are to be found (in this district), and things are looking encouraging, to say the least.

A P.S. TO SILVER REEF STORY

Have just learned that F. S. Leany and sons of Hurricane and St. George (formerly of Leeds) have conducted a little mining operation of their own in more or less odd times on the old mine dumps of the Duffin Mines down on the East Reef by the Rio Virgin. These operations consisted of resorting the old dumps and sending the recovered ores by truck to the American Smelting and Refining Plant at Garfield, Utah.

They call it "Operations Wheelbarrow," and have recovered some $5000.00 (gross) in silver and copper bullion within the past two years.

Mr. Leany states that there is considerable silver ore in sight in the various mines in that section waiting to be mined if and when conditions warrant. The mines are owned by people living in San Francisco, and are, of course, patented.

ECHOES

As one looks over Silver Reef he is struck almost with awe, or, if you have known the old town, a great big lump comes in your throat.

Sitting high up on those granite boulders that furnish a substantial foundation for the people who extracted silver from the town's encircling reefs, we see two buildings silhouetted against the sky. One, the larger, with the huge iron doors and the beautiful arched mason work doorways, four of them, is the Wells Fargo and Company Express Office. Later, the Wooley, Lund and Judd Store. It fronts on Main Street A mulberry tree is at your left as you approach the most southerly of those four front doors, and under it is a tap that constantly discharges a flow of Quail Creek's clear, sparkling water into one of the old mercury tubs from a defunct mill. You see, about midway of the building's front, the bottom part of one of the stamps used to pulverize the ores. As you turn to the left, and walk along what might have been an old side walk, you pass an empty space of probably 150 feet, and arrive to a white adobe building that has also with stood the ravages of time. This is the old Rice Bank. Had you walked northward, rather than southward, you would have walked about the same distance to empty site of "The Harrison House," Silver Reef's Waldorf Astoria, which in those glorious days was a two story frame building, the upper story contained the guest rooms. The ground floor had kitchen and dining room, and amusement rooms, which contained at least three billiard tables, and an immense grand piano which you may now see in the D.U.P. Museum in St. George. An old Orchestrone (an organ operated by turning a crank, and playing perforated paper rolls, like a player piano uses), also from Silver Reef, sits near it The fine old billiard tables, I am told, were made into furniture for the Court House in St. George. The building fronted on the side walk, but a high lattice fence surrounded a yard at the rear. When this old building ceased to be used, its bed room

furniture was sold all over the county, I suppose. I still have one of its marble-topped walnut dressers.

Across the street from Wells Fargo was the Louder store and the Miller Saloon, with a dance hall adjoining, was just north of the Louder store. Stores and saloons lined the street. Down the street a distance, on the east, was an office, the assaying office for the Christy Mill, which was on a lower level, a little farther to the east It was the Christy Mill that built up that immense deposit of gleaming, white sand, the tailings dump that testified visually of the enormous amount of sand stone crushed in that mill. Few who live here now ever saw it, and not seeing it, could never comprehend it. The winds and the rains have scattered them far and wide, from Silver Reef to the Pacific Ocean.

Dwellings were everywhere, but the finest of them, as I remembered it, followed the course of the Harrisburg water ditch, and had fine shade trees, lawn, and flower gardens. Miners cabins and cottages extended clear up to where the water for the three towns was taken out of the original Quail Creek Channel. This was the picturesque part of the camp, cottages being just built among clumps of Cottonwood and cedar trees, near ditches when they could get there, distant if necessary. One cabin that awed me as a young girl was a little 2 room frame affair with a tiny porch and yard, near the Leeds ditch, and under large Cottonwood trees. The little fence was down, the cottage abandoned; its doors locked, its window boards pulled off by the curious. We would tread softly up to the windows to peer in at the table covered with "breakfast dishes," a baby's bib hanging on a high chair, clothing on other chairs, the stove covered with cooking utensils. That is how Matt Wicks found his kitchen when he came for breakfast after working a night shift, his wife and baby boy gone with another. (So rumor said.) Poor Matt walked out, locked the door, and never entered again.

That boy came back to Leeds, a man, as his broken hearted, kind, old father lay on his death bed, on the farm he bought and planted for that son, Carlisle Wicks. It was the old William Harris farm, now owned by Leland and Evan Sullivan. Carlisle Wicks, and his Leeds wife, and their family now live in California.

The town grew and flourished through the late '70's and '80's.

Pete and Leo Welte owned and operated a brewery, which was located above Silver Reef, and, to our right as we go into the old Quail Creek Channel, en-route to Oak Grove, we see the pile of rubble that was that brewery.

Certain it is that Judge Barbee was the one man most prominent in the history of the beginnings of the camp. Down on the flat there were at first, many cabins, but these gave way, and the old race track of our father's time was there, and the two cemeteries grew, the one whose memory is preserved for us by the photographer's art, the other the "Potters Field" and "Chinaman's 'Grave Yard" that came into view as we walked the old short cut trail from Leeds to Silver Reef, as soon as we passed through "the gap" and came out onto "The Flat."

Barbee's partner was J. B. Van Hofan, and they managed their own businesses, financing their enterprises by the sale of the Tecumseh Min. Each is reputed to have hired a body guard to protect him from the other. Also each carried a gun.

The Presbyterians established themselves in Silver Reef, and held services there, using the Catholic Church, the only church in the town.

The LDS Church did not organize a ward there, but Mormon men from Leeds or St. George were often there to officiate at funerals, and also held church services often, ceasing to do it when they were no longer attended.

The Mason and Odd Fellow Lodges had Lodge houses, and large memberships. Also the Ancient Order of United Workmen.

A public school house was built by subscription, sponsored by the public spirited business men. This building was used by various churches for their meetings and for any type of public meeting or celebration. In the early part of this century it was moved to Leeds for a school house, and still serves us in this capacity. That enterprise was sponsored and led by David McMullin.

The population of the town was made up of practically all nationalities, including quite a number of Negroes and Chinamen. It seemed a very rough place to those Mormon pioneers, but, really, as mining camp history goes, it was not a wild camp, though there were some murders, duels, and even one lynching.

The Chinese were there quite strong, with restaurants, laundries, stores, etc. some 250 Chinamen occupied, or resided in the Chinese sector. Quite a number died and were buried up there, and those burials were interesting affairs to the local people and the Indians. The Indians really profited by them, because they slipped up, under cover of darkness and carried away the foods placed on the graves to feed the dead one's spirit on its way to its spiritual habitation.

After the decline of Silver Reef a Chinaman, Sam Gee, came from San Francisco, dug up all Chinese dead, and shipped their remains to the land of their ancestors, to insure their future with those ancestors' spirits. He brought chests of tea to ship these remains in. The young fry were much interested in his queue hanging down his back.

During the '80's the Federal Officers were engaged in arresting any Mormon they could catch who practiced Polygamy. These officers were stationed in Beaver, but when out on their hunts, they stayed in the non-Mormon Silver Reef, not knowing the telegraph operator to be a Mormon who could warn the operator in St. George, whose office was in a furniture store, simply by wiring in an order for "two chairs," Through such methods, their hunts were rendered rather unsuccessful. Telegraph communication systems also extended to Kanab to assist men there to outwit the officers. Lawrence C. Mariger, my father-in-law, was telegraph agent in Kanab. He was also Bishop of Kanab, and one of the hunted "polygs." He had installed

telephones connecting Kanab and Orderville, Utah, and Pipe Springs, Arizona, to make the warnings easier.

Officers had pursued him unsuccessfully many miles, and on different occasions. Once, when they came to Kanab, the weather was disagreeably cold and stormy, the date being February 11, 1889. The officers were most unpopular, and could find no place to stay.

Lawrence Mariger was very human, and he was also tired of living in hiding, so he stepped put on the front porch, gave himself up, and invited the marshals to make his home their headquarters while in Kanab. To be sure, he was arrested, but was allowed to go about his business after they exacted him promise to appear in court in Silver Reef on February 15th.

He was at court on time with a group of witnesses who had been subpoenaed. One was his eleven-year-old daughter, Dagmar. On the witness stand she was repeatedly asked if she had a half sister. A half sister was a term unknown to her, and she steadfastly maintained that her sister was whole, and the titters that followed filled her with alarm, lest she had condemned her father. Her father acted as his own attorney, and the case was dismissed for lack of evidence.

Her young brother, Lawrence, was along too, and the elder Lawrence took the children about the camp, showing them everything. The Chinamen with their queues were the most fascinating sights, the first the children had ever seen.

To the many who came to Silver Reef to study, one thing ever amazes them. That is the friendly relations, and even social mingling between the Mormons of Leeds and Harrisburg, and the non-Mormons of Silver Reef, not only in such things as driving through the towns to see them, and to stop to buy fruit or vegetables. But they actually mingled in such things as dances in the Leeds church, picnic holidays such as May Day, when they met and held children's games, Maypole dancing, etc., in the two fine groves planted by William Stirling and William Harris as woodlots, and pleasure spots, for everyone knows the Mormons are a social people.

Naturally, the economics of the situation had much to do with it, for the two communities were forced to depend much on one another. Silver Reef sought laborers; the Mormons sought labor; Silver Reef needed what the farms produced; the Mormons needed what stores and shops furnished.

I have also been told that Mormon girls went to the Sister's school to take piano lessons. It was certainly a fine opportunity, if their interests lay that way.

I, myself, can remember going to Silver Reef in a wagon with my parents, where they went to see horse races, and then went up to the Louder Store shopping, sixty-two years ago. Why shouldn't I be deeply interested in anything pertaining to that old camp?

SAVED—A MILL

One bleak winter morning while Silver Reef was in it's prime, William Stirling had an errand up there, and started out on horseback to discharge it. His way lead past the Christy Mill, where all was frenzy and consternation.

The boilers were under full fire with no supply of running water, for the mill stream was completely frozen up. Without a supply of water, and explosion was inevitable. Something must be done.

Now William Stirling happened to be the chief executive of the Leeds Water Company, but, knowing the man, I should say that would not matter much. What did matter was the danger the mill was in, and if he could act quickly enough to avert an explosion.

With all the speed his horse had, he raced to the spot where the mill stream was diverted from our Leeds canal. Hurriedly he threw open the head gate to a large flow of water, and it reached the mill in time to stave off the disaster.

As a gesture of gratitude, William Stirling's name was placed on the company pay roll for one year.

Just one more little anecdote showing the friendly relationship existing between the towns

Population of Silver Reef

1875	Barbee's letter published in Salt Lake Tribune give (in August)	12
1877-1879	Boom years. No records.	Estimates 1500-2000
1880	US Census Bureau Records	1046
1890	US Census Bureau Records	177

CONNER MEN IN SILVER REEF

Colonel Patrick Edward Conner, who was sent to Utah after the withdrawal of Johnston's Army at the outbreak of the Civil War, came here from California, bringing an "army" of some 300 men, many of them miners from California and Nevada. These miners being out of work from strikes, or the simple closing down of a mine for lack of ore, were recruited by Conner, who was really sent here because the Federal government lacked faith in the loyalty of Utah.

Fort Douglas was established by them in 1862.

Brigham Young, as Territorial governor and head of the Church of Jesus Christ of Latter-day Saints, discouraged the development of mining to let the people first develop towns and home of their own. He did not want an influx of non-Mormons into their western refuge.

What Governor Young discouraged, Colonel (later General) Conor encouraged so he permitted his men to prospect with his blessing, and such mines as Bingham, Tintic, Park City, and Mercur were discovered. Enough discoveries were mad that every county in the territory is said to have had at least one mine, and 135 mining districts were organized.

Silver Reef was not discovered by men of the Conner Army, but it did have Connor men in its personnel.

Colonel Enos A. Wall, noted with his connection with the Kinner min, whicfh simply lost its rich ore due to a fault in the sandstone strata, was one. For two months he could not pay his miners, nor could he borrow money. The Kinner mine was in the Christy Mining Company orbit, where Captain Henry Lubeck was general superintendent and manager. Wall and Lubeck became involved in a law suit, and Wall was obliged to leave Silver Reef, with these prophetic words: "Boy the time will come when I will pay you two dollars for every dollar I owe you." After he had made millions in Bingham Canyon he kept his promise.

At a very tense time, when a mob was being harangued by a large, burly agitator named Lynch, to hang an innocent man. Captain Lubeck, really a smallish man, road up on his horse, dismounted , and sprang to the platform where Lynch stood, faced him, and shouted, "Sit down." Lynch obeyed. Captain Lubeck, in a few shore, ringing sentences, addressed the mob, encouraging them to stand for law and order rather than to commit a rash act that would bring disgrace to them and Silver Reef.

His eloquent appeal won the men over, and the crown gradually dispersed.

Colonel W. I. Allen, another of Conner's Army men, was the Stormont Company's official who gave notice to the mines of the reduction of wages to match the reduction in the price of silver.

The miners struck, and for thirty days the strike dragged on. Things got desperate. Stores closed, and there was a drop-ff in the freighting. The desperate miners stormed Allen's office, demanding that he leave camp. Results of this have been told elsewhere, and this repetition is merely to point out that even Silver Reef felt the Conner influence.

The name Gisborn occurring in both Northern Utah and Silver Reef mining history, and Gisborn being definitely mentioned with other Conner Army men, leads me to think the influence rather strong.

The group whose names are included here is a group of whom Silver Reef may well be proud, as they were men of high character, and were creators, not mining flotsam.

SILVER REEF TRAGEDIES

Of these murders I will tell a few of the stories as they have come down through the years, told by my parents and others.

| Most stirring, I suppose, was the murder of Michael Carbis with the after-math lynching of Tom Forrest.

Michael Carbis was a shift boss in the Buckeye Mine, a Stormont property, Superintendent over all Stormont properties whether at Silver Reef or down on the Virgin River was Col. W. I. Allen. Under him, Vivian Johnson was superintendent of the Silver Reef mines along or adjacent to the White Reef, which of course included the Buckeye Mine. Cornishmen from England had entered the camp, and Col. Allen much preferred them as miners, and whenever he could replace one the Irish Catholics with a Cornishman he did so. In accordance with that policy, he instructed Vivian to have Carbis get rid of Tom Forrest.

Each man played with his gun handy.

Each accused the other of cheating, and they simultaneously drew their guns and fired. Each was shot through the heart, making a short thing of it.

James Edward, Harry's brother, married Susanna Walker Fuller, daughter of Elijah K. Fuller of Harrisburg. The marriage took place at Silver Reef on November 1st, 1889. The bride was a sister of Donald Fuller, deceased, of Leeds, and has but recently passed away at her home in northern Utah well advanced into her 80's, (1958).

The winter of 1887-88 was very severe; one of Dixie's hardest snow storm was February, 1888. F. S. Hamilton told me that two men attempting to walk down from charcoal kiln froze to death. Their bodies being found about a mile above Silver Reef. They had crawled under a sort of bank for shelter from the blizzard just a short distance below point of red hill.

CHINESE MEMORIES

I personally have a few memories of the Chinese population of Silver Reef. I remember their coming to our home to buy peaches, apricots, and grapes.

Their dress was ever curious and strange to us. While their dark trousers may have been Levis, they wore long, loose white skirts that hung over the trousers nearly to their knees, add to this the long braided queues hanging down their backs, or coiled about their heads. These queues, token of their subjugation to Manchuria at that time, are no longer worn.

They usually had long strings of Chinese coins hanging from their necks. These were used in their gambling and barter with one another, but not with other people.

When about five years old, I was in Silver Reef with my parents, and father took me into a Chinese eating house. The room we were in was long and narrow, and made, inside and out, of rough, unpainted lumber. Long, narrow tables extended the length of the room, and at one side, the Chinamen were seated eating with chopsticks from thick, heavy bowls. On the other side of the room a row of men stood behind the tables, which were stacked with piles of freshly laundered clothes. The men would fill their mouths with water from tall tin cups, spray it through their teeth onto the clothes, fold the items up and place them in a basket for ironing. I never could forget the sight, though I have been afraid to tell it, for fear that no one would believe me,

but recently I heard a lady tell the same thing over KFI Night Owl Program, so now I pass my story along.

Mother told me of an old Chinaman who used to come to our place when I was a very young baby, and who used to ask to hold me, saying that he left a baby glel in China, who would be a big glel by then. Once he asked permission to kiss me, and, given it, he kissed the top of my head. He used to borrow one of my stockings occasionally, and return it filled with Chinese candies

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DANCE TICKET

. Will McMullin was one of my father's youngest brothers, and he did considerable mingling with the young men of Silver Reef. There was always much "kidding" going on between them, and he was teased about many things, but, from the stories that have come down, he was always ready and able to meet quip with quip. One thing he was always being twitted about was that the Mormon boys, not often having cash in their jeans, were wont to take a few squash, or cabbage, or a few pounds of dried fruit to a dance to pay their ticket for the evening's entertainment.

One day he and a bunch of his Silver Reef friends passed through our door yard, en-route to the wine cellar, where he was going to treat his friends to some of father's new wine. A small squash lay in the yard. To the biggest "wag" in the group, he whispered, "pick up that squash and bring it along. We will have some fun with it."

The wag picked up the squash, tucked it under his arm, and they went into the cellar, where they all had a few drinks, the wag holding on to the squash.

When the time was right Will said to his friends, "well, there must be going to be a dance tonight Guess we will all go."

The boys had not heard of a dance, but were anxious to know all about it, to which Will answered, "Well, I don't know about it either, but I see our friend here is ready with his squash"

A MORTGAGE

One of Leeds' small farmers was confronted with a problem. He owned a house and lot-almost. There was a small mortgage on it that was soon to fall due.

The farmer also owned a wife and some children, and families, especially where there has been sickness and death; require money or its equivalent to live.

This home owner had had spotly employment at Silver Reef, but the Big Strike was on, and employment was out The mines of the Stormont Company and its affiliates were closed, the mines picketed by striking miners.

Seems that idle miners get restless and thirsty, and the Buckeye Mine was really not far from Leeds, and the back entrance to our farmer's lot In the farmer's cellar were a number of large casks of Dixie's famous wine, and the striking miners knew it.

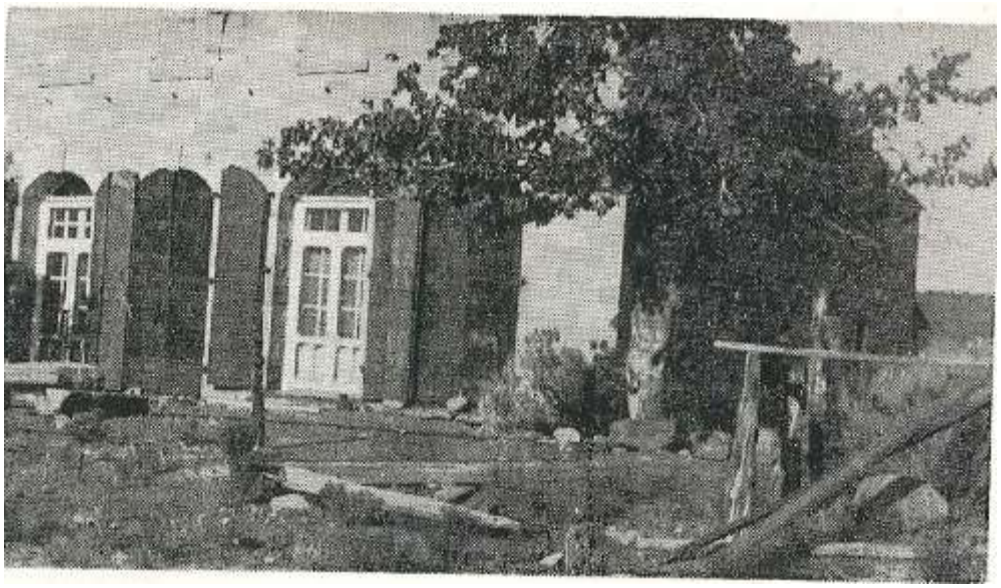
They sent colleagues in relay to secure quantities of the thirst-slaking beverage, but, as one drink takes another, and another to satisfy the thirsty throats, so many calls were made on the farmer that, by the time the strike was over, his cellar was empty, and in his pockets were the jingling silver dollars to pay off his indebtedness. It is- an ill wind that blows no good.

MATT CHIDESTER ANSWERS A QUESTION

There are lots of smart people in the world-people who like to think of themselves as super-people and it is of one of that class that I happen to be thinking of. This story is not my own, of course, was handed to me from, or by, an Old Timer.

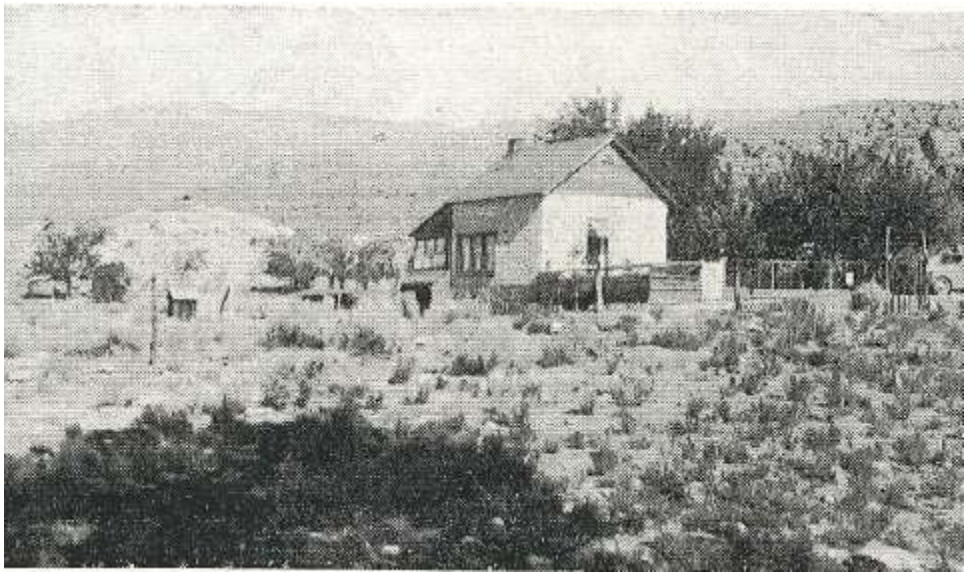
An ore hauler with a load of Stormont Buckeye mine ore was driving up through Leeds, en-route to the Stormont Mill. He was not a local man; I think he must have come in with the Pioche Stampede. On the wagon seat at his side was a visiting friend, and, as they drove along, the friend asked the ore hauler questions about the Mormons. One question was concerning the general I. Q. Just then they were nearing town they saw two Leeds boys who were harnessing a span of small mules, and hitching them to a light farm wagon. To show his friend the stupidity of the Mormon boys, the ore hauler stopped his own team and asked the older boy where he thought he was going "with that span of jack rabbits." The boy pointed to a tree on the top of the East Mountain, and asked, "Do you see that tree on the top of that hill over yonder?"

"Yes, of course I can see it. What about it?" asked the curious ore hauler? "Waal, I ain't a going there," replied the stupid Mormon boy, and the ore hauler drove on. If anyone was laughing it was not he.

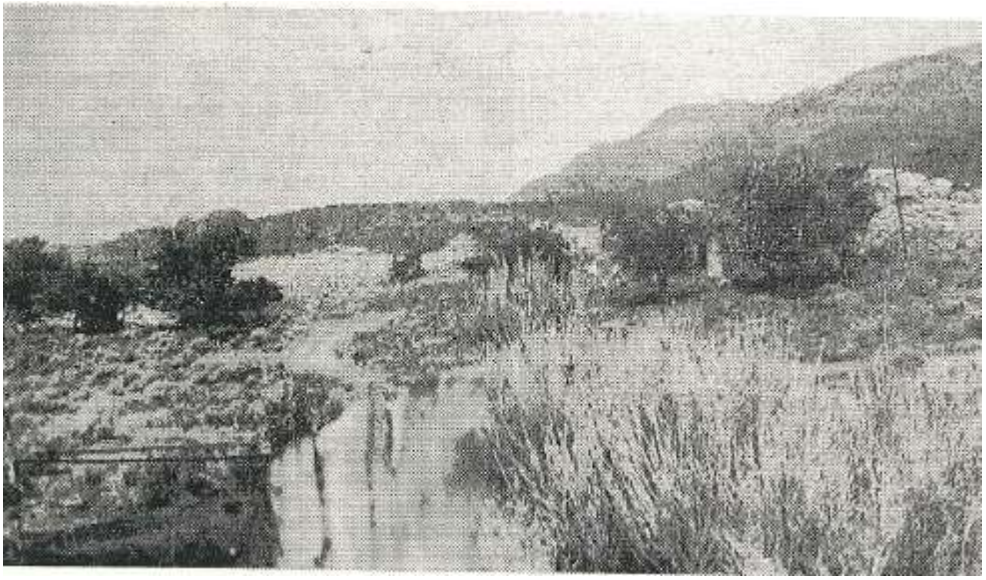


Wells-Fargo Express Office and
Bank. Build early in town's
history, home now of Mr. and Mrs.
Alec Colbath, 1951.

Wells-Fargo Express Office and Bank. Built early in towns history, home now of Mr. and Mrs. Alec Colbath, 1951.



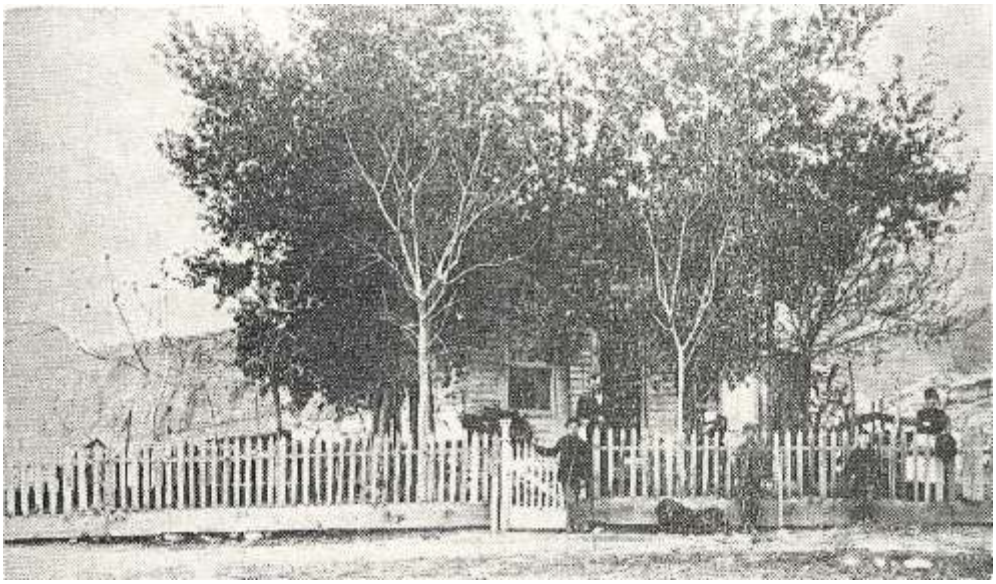
Rice Bank Building, renovated, now home of Mr. and Mrs. Frank Willis (1951)



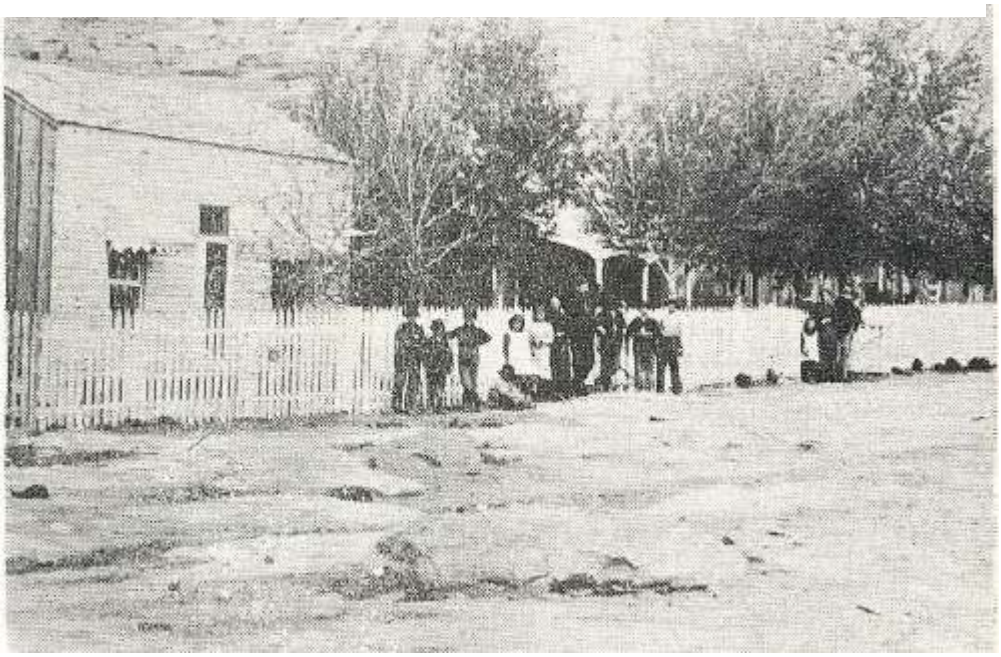
Desolation along Silver Reef's most swanky residential Street (1951)

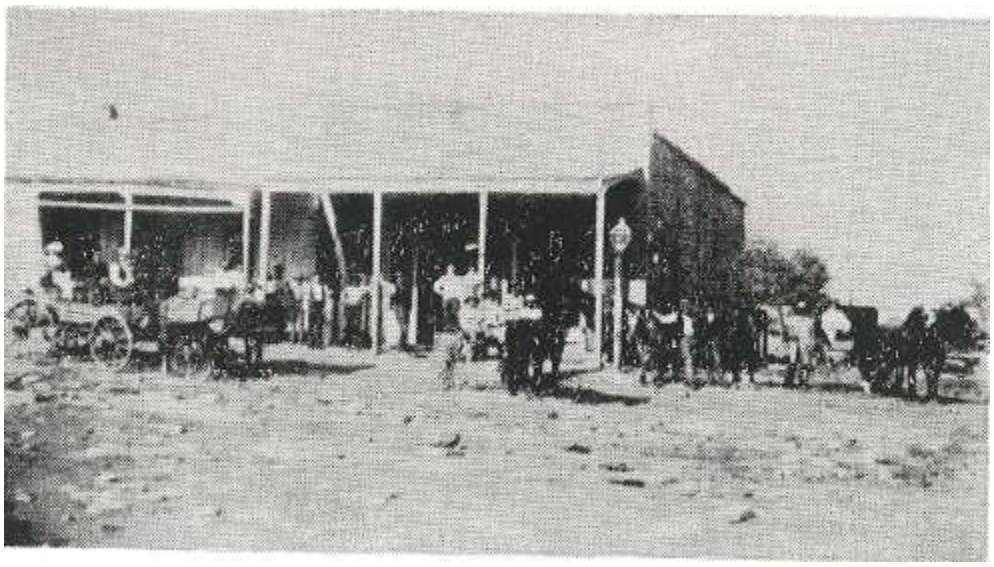
Most of Silver Reef's male population by 1903:
Back row: Issac newton, James Wilder, Mat Wicks.
2nd row: William Nicholls, W. D. Newton, "Jim" Fleming, Albert Hartman Sr., Arthur Nicholls, Frank Hamilton and Richard Whitehouse. Frank Hamilton is now in his 94th year, grandson of Priddy Meeks. (1951)

William Hartman, like his father, knew all there was to know of Silver Reef mining and milling

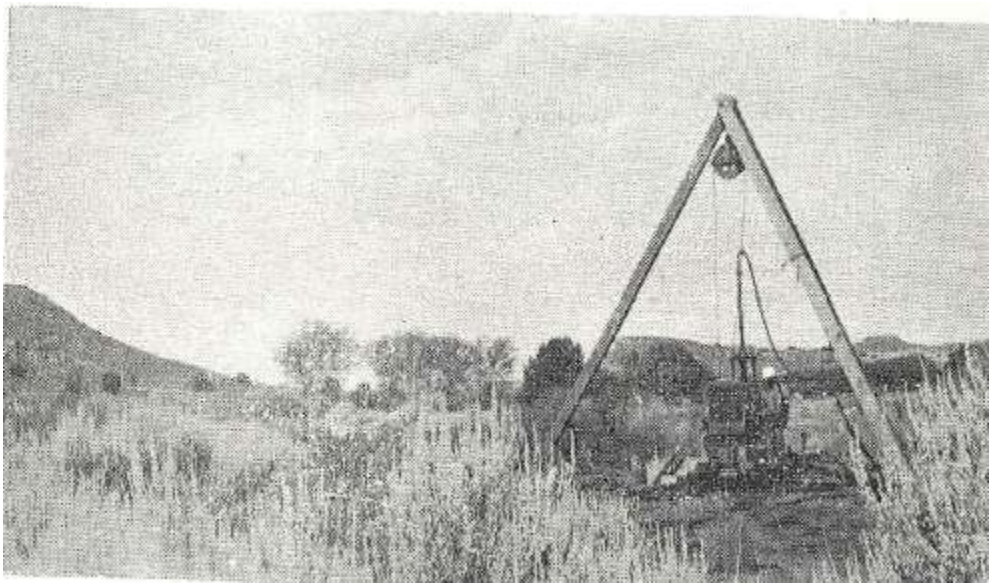


Home Scenes on Silver Reef's boulder paved boulevards, 1886

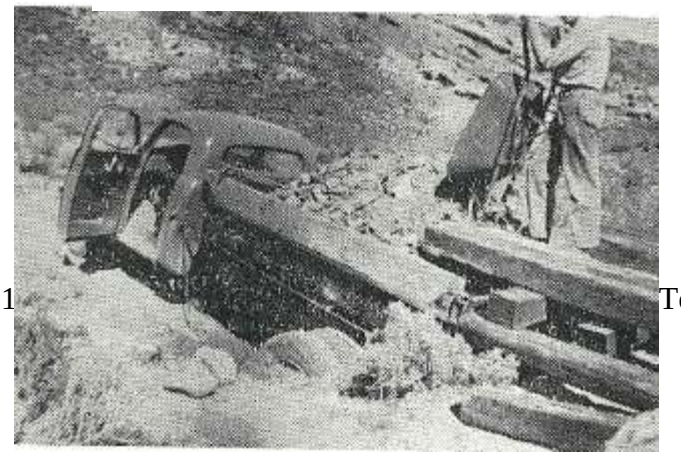




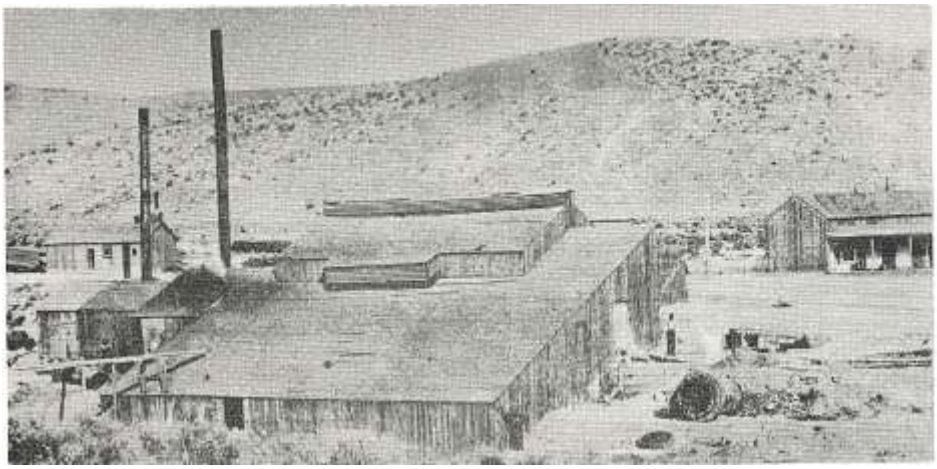
Elk Horn Saloon and Lowder Store and Post Office across from the Wells-Fargo Building



Drilling for uranium, east of Tecumseh Hill on Bonanxa Flat, 1951

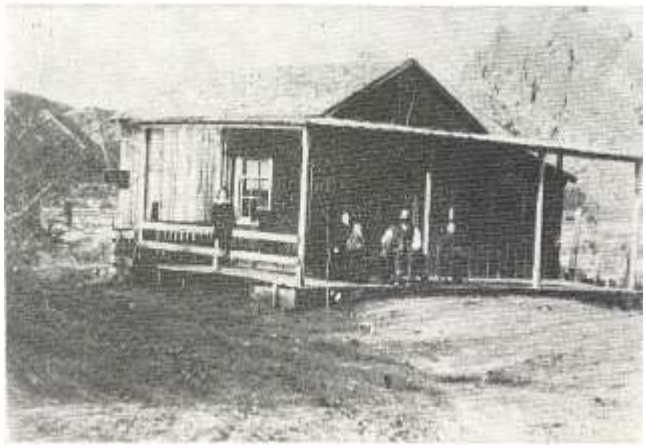


"Operation Wheel Barrow" at Old Duffin Mine, 1951

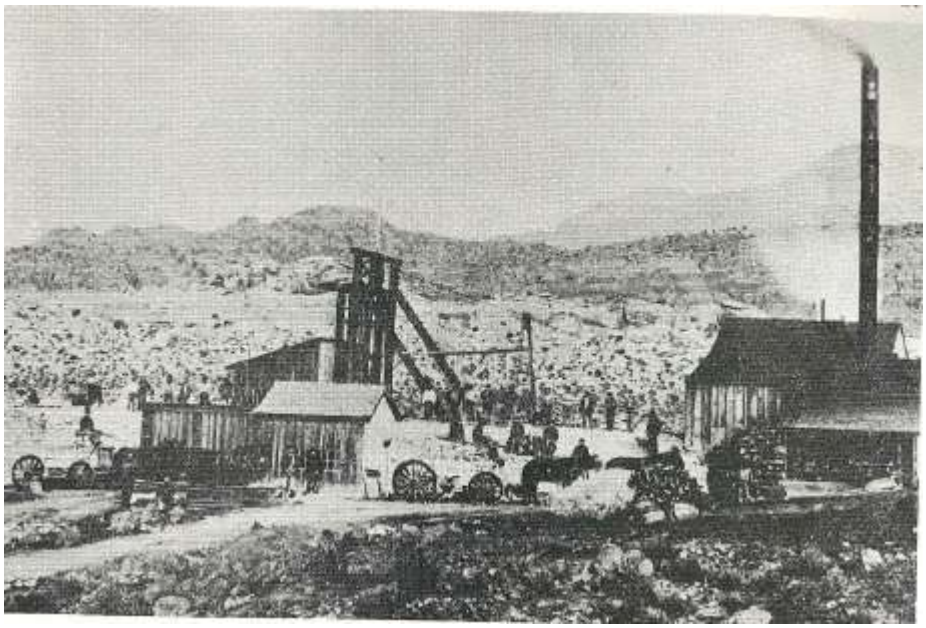


Pioneer or Little Mill below Leeds--1878

Stormont or River Mill on Rio Virgin about 1882



William Leatham home near Stormont Mill. Two-year old Mayme O. Colbath sits on Mrs. Leaham's lap. Other children Latham's (about 1882)



Buckeye Shaft No. 1. Note steam plant at right and stacked cordwood, crew members in background. Andrew Gregerson' mule ore team in foreground. During the 1880's

Pathetic remains of Old Barbee and Walker Mill, the last one to operate.

Sam Wing, Druggist and Mayor of Chinatown, 1886

Mrs. Colbath shows her hasbad of her find of an old fluting iron which she cound in the ruins of Chinatown, 1950

Remains of old Drug Store 1950

Stormont Mill on Virgin River – 10
stamp – water power

Barbee Mill at Silver Reef