

AX - I - DENT - AX

EMPLOYEES' MAGAZINE

United States Smelting Refining and Mining Company
and Subsidiaries



FOUNDERS OF MINING AND SMELTING IN UTAH



IN THIS NUMBER

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Early Mining and Smelting South of Salt Lake City

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President, Utah Historical Landmarks Association

Prehistoric Mining

Petrographs or hieroglyphics on canyon walls, cliff dwellings, mounds and caves show occupancy at remote periods and point unmistakably to ancient or prehistoric dwellers in Utah. These people evidently changed their habitations from time to time, killed game, practiced agriculture, observed religious rites, bartered with each other and with neighboring people and maintained forms of government. In a broad sense they were miners. It was necessary to have weapons to use in offensive or defensive warfare or for killing game, implements for the clearing of land and the cultivation of crops, tools for building of shelters, implements for the preparation of food and tokens representing certain values. The mineral products used by these prehistoric people were of limited number and scope as compared with those of the present. Mines today furnish munitions and implements of warfare, gold and silver for exchange, fertilizers for fields or material for buildings, machines for manufacturing and production of farm implements, works of art, etc.; the variety of products today is greater than in former times but the fundamental purposes of mining are the same.

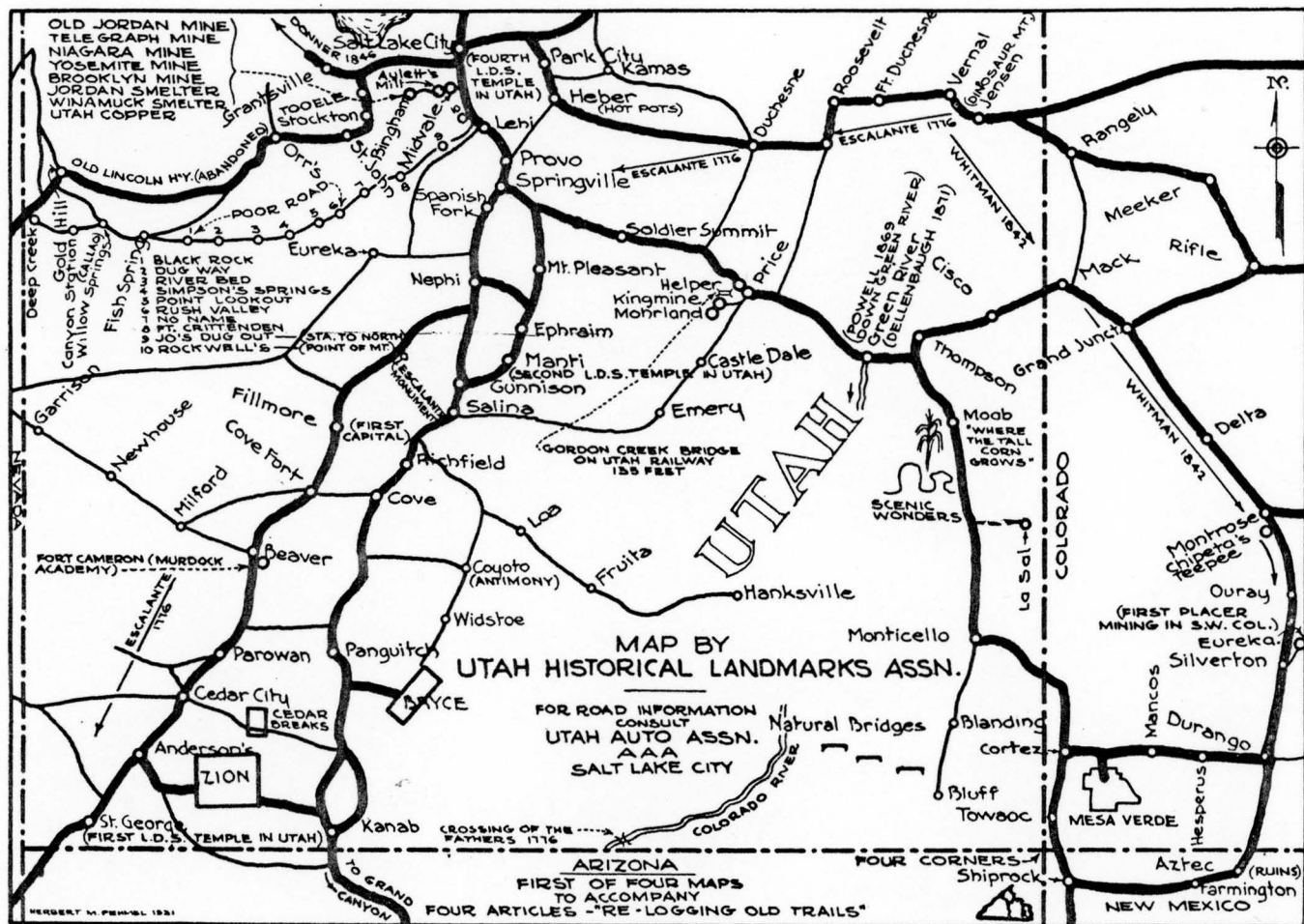
Escalante and Dominguez passed through what is now southern Utah in 1776. There is a legend that La Sal Mountain was the site of salt making by this party. Cortez wrested from Montezuma great metallic treasures; the value of which was known not only to the Aztecs but to Indians living to the north where many of the tribes, and particularly the Navajos, had skilled silversmiths. In 1852, William H. Kimball, deputy marshal, arrested a party of Mexicans who were kidnaping Indians to be sold into slavery in Mexico. The leader of the party told Kimball that Indian slave trading was

the most profitable business he had been in since he packed ore from the vicinity of Provo Fort to Santa Fe before the coming of the Mormons. From this report, and others, it appears that the Mexicans abandoned mining in this section for the more profitable business of kidnaping Indians and selling them into slavery. In August, 1870, a party of mine prospectors working in Kamas Prairie, found a former excavation filled with loose dirt. They cleared out the loose dirt and found an old shaft sunk years before by Mexicans. A hanging wall had been cut with steel tools and steps led down into the shaft, which furnished means of removing debris and ore. A tunnel ran out for a considerable distance along the vein and several specimens of good silver ore were found. There can be hardly any doubt, therefore, that early Mexicans mined here and that some of the early fur traders and trappers undoubtedly noted evidences of minerals throughout this region.

Mines of Record

Since the occupation of Utah by the Mormons, the first discovery of commercial metals was in southern Utah when Parley P. Pratt and others were exploring that region in 1849 and '50. Iron ore was found and primitive operations carried on from '50 to '53. A pair of tongs displayed by Jedediah M. Grant at a meeting in Salt Lake City and an iron bell which hung on the Townsend House for many years, were produced, together with some other articles for general use.

What may be called the next economic discovery was made by Isaac Grundy and his associates, also Mormons, who located lead and silver mines near Minersville in 1858 and built a crude recovery furnace. The purpose of the furnace was to produce metal for bullets. According to accounts, "something" in the lead made it too hard for that purpose, which "something" was later found to be silver.



The next discovery was that of coal near Coalville in 1859. Thomas Rhodes has been given credit as being the discoverer of mines in this section but there is some dispute regarding this because credit has been claimed by others.

It is interesting to note that 72 years after Pratt found iron ore in southern Utah, L. F. Raines and his associates utilized ore there and organized the Columbia Steel Company in 1922. The work of Isaac Grundy and his associates awakened later interest and three districts near Minersville came into prominence in '69 and '70, these being the Lincoln, Star and Granite which were active for many years and from which a limited amount of ore is produced today—73 years after the original discovery. The coal veins found near Coalville in '59 supplied fuel for a number of years and mining is intermittently carried on there today.

The classical example of sustained operation is the mine at Bingham commonly called the "Old Jordan." In October, 1862, General Patrick E. Connor established a post, first known as Camp Douglas and at present Fort Douglas, on the bench east of Salt Lake City. Many of General Connor's men were former California miners and permission was granted to employ their leisure time in prospecting. Just exactly who was the first discoverer of "argentiferous galena" in Bingham canyon is somewhat shrouded in mystery. Captain A. Heitz, and others from Fort Douglas, were prospecting and picnicking in Bingham canyon on the same day that George B. Ogilvie was hauling logs. Some give credit for the discovery to Mrs. Reid, wife of Surgeon Robert K. Reid, and in fact, a mining notice known as the Reid Notice was posted by Mrs. Reid on the same day that Ogilvie posted his notice. Regardless of who first saw galena in paying quantities, credit must be given to General Connor for his interest in mining and prospecting and for encouraging others to look for metals. The Jordan Silver Mining Company location claim notice bears date of September 17, 1863.

During the following winter, the Galena was located on January 26, 1864, and the Empire on February 6. The Jordan Silver Mining Company claim had a vein 20 feet thick, with 460 feet of underground workings from which 500 tons of ore were extracted but none shipped nor smelted, up to 1872. The silver in the ore assayed

\$34.00 a ton and the lead 56 cents a ton. According to an 1872 report, the Galena showed 220 feet of underground workings with 50 tons of ore extracted, shipped and smelted. "Three tons of ore made one of bullion;" values were a little lower in the Galena than in the Jordan. While the Galena showed a thickness of vein of 8 feet, the Empire showed 4 feet and 140 feet of underground workings. Twenty-five tons of ore were extracted, none of which, however, was shipped or smelted. From 1863 to 1872, thirty-two other claims were located in the immediate vicinity, from most of which no ore was shipped or smelted. The Winamuck extracted and shipped 1200 tons from the time it was located on March 31, 1866, to the close of 1872. The Spanish mine, located on January 6, 1865, extracted 3,000 tons of ore and shipped 1,000, of which 200 were smelted. The Spanish mine showed a value of \$10.00 a ton in gold. What is known as the "West Mountain Mining District" (Bingham Canyon) was organized on December 17, 1864. It included the Jordan Silver Mining Company claim, Galena and Empire named above, also the Grizzly located on August 3, 1864, and the Hingston located on August 9, 1864.

First Free Gold Mining

Free gold was first discovered in Bingham Canyon in 1864 by a party of California miners who had been working in Montana, and spent the winter in Salt Lake prospecting. Active work began in the spring of 1865 and between that time and 1872 the Bingham Canyon district produced \$1,000,000 in gold.

The first shipment of ore made from Utah Territory was a carload of ore from Bingham Canyon belonging to the Walker Brothers which was hauled to Uintah on the Union Pacific, to which point the railroad was completed in 1868. From Uintah it was shipped to Baltimore the same year.

In the summer of 1864 General Connor, who was one of the locators of the Jordan Silver Mining Company, transferred his activities to the Little Cottonwood canyon and Mountain Lake districts which were organized under those names. To Walker Brothers is due also the credit for the first shipment of galena ore from Little Cottonwood, made by them in July, 1868. On the 10th of January, 1870, the Utah Central Railway was completed to Salt Lake City and this presented the long-looked-for opportunity for miners to begin

activities. The Flagstaff, Emma, North Star, Savage, Magnet, Monitor and others were developed in Little Cottonwood and in nearly every case production proved successful beyond the wildest hopes of the operators.

The extraction of ores increased in 1868 and '69 from a few irregular weekly shipments to a constant stream of five hundred or more tons weekly.

The next region to be developed was in East canyon, now known as the Ophir district, where an important location was made by W. T. Barbee on August 23, 1870; the mine was called Silveropolis. Some other claims, however, preceded this find. The finding of the Silveropolis was followed by that of the Tampico, Mountain Lion, Mountain Tiger, Petaluma, Zella, Silver Chief, Defiance, Virginia, Monarch and Blue Wing. Ores in mines which are located on Lion hill south of Ophir City, were "adapted to mill reduction processes unlike those of Cottonwood, Salt Lake valley, which were not so well suited for like purposes." At the present time, interest is being shown in the mines of this region.

Some ore was shipped out of the Territory but it was not long before smelters were planned. To General Connor should be given the credit for building the first sizable smelting furnace which was erected at a place he named Stockton in honor of a town of the same name in California, where he built the city water works and was formerly active in civic affairs. Nothing but the site of the Stockton smelter is in evidence today. General Connor followed his first furnace with a second one of the reverberatory plan with an incline plane 150 feet long. In March, 1864, General Connor established Camp Relief on the site of the present town of Stockton, this being a military post occupied by a portion of the California and Nevada volunteers. Forage for the animals was obtained in Rush Lake valley, part of which was organized as the Rush Lake Military Reservation. Six years after Stockton was founded by General Connor, it boasted a population of 300, with 60 houses, an excellent hotel, post office, express and telegraph office, assay office, good general store, smelting plant near the edge of the lake, (the Waterman ruins of which may still be seen), and numerous saloons. Daily communication by stage was established between Salt Lake City, East canyon, Tintic

and Stockton. Cavalry men who were stationed there became enthused over the success of some of their former comrades and improved every opportunity when off duty to prospect for minerals. Most of the mines were located in the foothills due east of the town of Stockton.

During the summer and fall of 1864, draft furnaces were built by the following: Lieut. James Finnerty; J. W. Gibson; Nichols and Brain; Hartnet, Davids and Company, and E. C. Chase and Company. Johnson, Monheim and Company built a one cupola blast furnace the same year, and Stork and Weberling followed with a cupelling furnace. In the meantime, the Knickerbocker and Argenta Mining and Smelting Company was organized in New York City to operate in the Rush Valley Mining District. This company spent about \$100,000 in the purchase of machinery under the direction of Captain C. B. Dahlgren, Col. G. Cooper and J. M. Forbes, but the company failed. Due to obstacles caused by the remoteness of the country, high freight rates and lack of experience, these plants were not commercially successful.

In the meantime, prospectors, miners, capitalists and speculators awaited the event of the iron horse. During the two-year period following the location of the Old Jordan in '63, hundreds of location notices were posted and claims filed.

When the volunteer troops were disbanded in '65 and '66, the question arose regarding the protection of rights pending the completion of the Trans-Continental Railroad. A general meeting was held and it was agreed that each locator would hold his claim indefinitely if he specified the amount of work that had been done. This debarred others from locating on the same ground and reserved the rights of the original owners.

The First Efficient Smelting Plant

The first really efficient smelting furnace in Utah Territory was completed in June, 1870, by Woodhull Brothers in what is now Murray, at the north end of the A. S. & R. dump. Water was obtained from the Little Cottonwood creek. Eight tons of ore were treated every 24 hours. The first lot of bullion was produced from ores of the Monitor, Magnet and other mines in Cottonwood. The Woodhull smelting works were followed by another plant known as the Badger State Smelting Works, four miles south of Salt Lake City. This smelter likewise had a capacity of

eight tons in 24 hours and produced its first bullion on March 18, 1871. The next smelting plant was built by Jennings and Pascoe north of Salt Lake City, near what is now the Municipal Warm Springs. The last named smelter was a reverberatory class and not adapted to the direct reduction of ores, but entirely suitable for the preparation of galena ore for the blast furnace. The blast furnace, or cupola as it was called in those days, was added and a capacity of ten tons a day was obtained. The next smelter, which was not only on a larger plan but proved to be very efficient, was one built by Col. D. E. Buel called the Little Cottonwood Smelting Works, located at the mouth of Little Cottonwood canyon. Buel and Bateman soon erected another smelter in Bingham Canyon, which plant was later called the Utah Silver Mining Company Works. These two plants had a combined capacity of sixty tons, were said to be "perfect in all their appointments," and ran more consistently and produced more bullion than any other plants in the Territory up to 1872. The Little Cottonwood and Bingham plants consisted of two hexagon furnaces of improved "Piltz" pattern. The one in Little Cottonwood was begun on November 1, 1870, and the first bullion was turned out January 14, 1871; while the one at Bingham was begun on December 10, 1870, and turned out its first bullion on February 8, 1871. During the winter of 1870 and '71, the reduction works of Jones and Raymond were built in East canyon and produced the first bullion in April, 1872. Further additions to reduction works in Utah were begun by Jones and Schofield at Tintic, and by Jones and Pardee at Tannersville in Little Cottonwood, in March, 1871. These plants were completed and turned out their first product in June, 1872, and were successfully operated for some time. The next smelting works were built by Mr. Wightman, at East canyon; by Bristol and Daggett, at Bingham; by Holcomb, Sevenoaks and Company, at American Fork; and by Dr. Scheuner, at Camp Union, (near what is now Union). These smelters were begun late in the spring of '71 and all of them turned out bullion during most of the following July. The Robbins and Company smelters were begun in the spring of 1870 at the junction of the State road and Little Cottonwood creek, but were not adapted to smelting and were never brought into practical operation.

Another very complete smelting furnace was begun at Corinne by the Sangers in 1870 and turned out its first bullion on September 20, 1871.

In a period of sixteen months, eighteen smelters were erected and put in running order with a total capacity of about 288 tons a day. Notwithstanding this smelting done in the Territory, large quantities of the best ore were shipped until railroad freights were advanced which had the effect of reducing ore shipments to at least one-half. After some discussion, a reduction was secured and the freight on ores was \$3.50 a ton from Ogden to Omaha and \$8.00 a ton on bullion between the same points.

The first crushing and amalgamating mill was built in 1871 in East canyon, Ophir district, by Walker Brothers. The mill had fifteen stamps, and was run in conjunction with the Silveropolis mine owned by Walker Brothers, noted above.

The production of gold in paying quantities has been noted in connection with Bingham Canyon in 1864. Mormons along the Sevier river in Juab County worked placers there as early as 1861, making \$2 or \$3 a day per person. Gold quartz ledges were also discovered in the vicinity of these placer claims in '68 and '69 and created quite an excitement. Hopes of the people in that section were raised through the building of the Utah Southern Railroad. Gold was also discovered at Deep Creek near the line between Utah Territory and Nevada Territory. Other free gold was discovered in the Raft river range, about ten miles north of what is now Lucin Station. There was not sufficient water to work these mines more than a few months each year and no considerable profits were realized. Gold placers were also discovered near Ogden. Weber canyon, in the spring of 1871, but these claims did not prove profitable.

The accuracy, refinement and improved methods which characterize the operations of smelter plants of the present day were not known in the '70s and '80s. As a result, large quantities of valuable metals were lost. Many of the dumps were subsequently reworked with profit and in other cases, the contents of pits near furnaces were smelted.

First Iron Ore Discovered

In addition to iron ore discovered by Parley P. Pratt in southern Utah, claims were located near the Devil's Gate, on Church Island in Great Salt Lake, at

Table Showing Number, Capacity, Etc., of Reduction Works in Utah, 1872

NAME	Number of Furnaces	Style of Furnace	Capacity of Reduction Tons of Ore Each 24 Hrs.	What Motive in Use	Where Located	Distance From Railroad
Bateman & Co., L. C. Works.....	2	Cupola and Blast	40	Water	Granitville, at mouth of Little Cottonwood Canyon	6 mi.
Pardee & Jones.....	1	Cupola and Blast	10	Steam	Little Cottonwood, 4 miles west of Emma Mine	6 mi.
Robbins	1	Reverbatory and Draft	10	None	At junction of State Road with Little Cottonwood Creek	½ mi.
Woodhull Bros.....	1	Cupola and Blast	10	Water	At junction of State Road with Cottonwood Creek	¾ mi.
Badger State Smelting Co.....	1	Reverbatory				
	1	Cupola and Blast	10	Steam	4 miles south of Salt Lake City on State Road	½ mi.
Pascoe & Jennings.....	1	Cupola and Blast	10	Steam	At Warm Springs, 2 miles north of Salt Lake City	¼ mi.
	2	Reverbatory				
Bristol & Dagget.....	2	Cupola and Blast	30	Steam	Bingham Canyon	15 mi.
Utah Silver Mining Co.....	2	Cupola and Blast	1-20 1-50	Steam	Bingham Canyon	17 mi.
Waterman & Co.....	1	Cupola and Blast	12	Steam	Stockton	40 mi.
Corinne S. Works.....	1	Cupola and Blast	16	Steam	Corinne	¼ mi.
Ophir S. Co.....	1	Cupola and Blast	10	Steam	Ophir Canyon	48 mi.
Lawrence & Co., Homansville.....	1	Cupola and Blast	14	Steam	Diamond City, Tintic Dist.	16 mi.
Abby, Drake & Co.....	1	Cupola and Blast	12	Steam	Eureka, Tintic Dist.	14 mi.
Wightman & Co.....	1	Cupola and Blast	12	Steam and Water	Big Cottonwood, in Silver Canyon	16 mi.
Miller M. & S. Co., Am. F.....	3	Cupola and Blast	30	Water	American Fork	17 mi.
Tecoma M. & S. Co.....	1	Cupola and Blast	20	Steam	Buel, Lucin District, Box Elder County	5 mi.
Saturn M. & S. Co.....	1	Cupola and Blast	20	Steam	On R. R. near Little Cot- tonwood Creek	⅛ mi.
Raymond & Jones.....	1	Cupola and Blast	12	Steam	Ophir District	48 mi.

Table of Mining Incorporations, With Capital Stock, Etc., Operating in Utah, 1872

NAME	Number of Shares	Capital Stock	Where Incorporated	Where Situate	Local Office	Head Office
Utah Silver Mining Co.....	10,000	£100,000	London	Bingham Canyon	At Works	London, England
Monitor & Magnet Mining Co.....	24,000	\$2,400,000	Calif.	Little Cottonwood	Salt Lake City	San Francisco
Carter Mining & Milling Co.....	18,000	1,800,000	Utah	Little Cottonwood	Little Cottonwood	Salt Lake City
Welch Silver Mining Co. of Utah....	8,000	100,000	Utah	Little Cottonwood	Little Cottonwood	Salt Lake City
Wasatch Mining Co.....	10,000	1,000,000	Utah	Uintah District	Salt Lake City	Salt Lake City
Chicago Tunnel & Mining Co.....	100,000	2,000,000	Utah	Little Cottonwood	Salt Lake City	Salt Lake City
Vallejo Tunnel & Mining Co.....	100,000	2,000,000	Utah	Little Cottonwood	Salt Lake City	San Francisco
Union Mining Co. of L. Cottonwood	10,000	1,000,000	Utah	Little Cottonwood	Salt Lake City	Salt Lake City
Wills Shaffer Mining Co. of Little Cottonwood, Utah.....	20,000	500,000	Utah	Little Cottonwood	Salt Lake City	Salt Lake City
Lincoln Tunnel Co.....	1,000	100,000	Utah	Ophir District	Ophir City	
Utah Mining & Tunnel Co.....		2,000,000	Utah	Little Cottonwood	Little Cottonwood	Salt Lake City
Abbey Mining & Tunnel Co.....	80,000	2,000,000	Utah	Ophir District	Ophir City	Salt Lake City
Little Cottonwood Mining & T. Co.	40,000	2,000,000	Utah	Little Cottonwood	Little Cottonwood	Salt Lake City
O. K. Mining Co.....	6,000	240,000	Utah	Tintic District	Tintic	Salt Lake City
Ely Tunnel & Mining Co.....	28,000	1,400,000	Utah	Little Cottonwood	Salt Lake City	Salt Lake City
The Eureka Mining Co. of Utah.....	5,000	500,000	Utah	Tintic District	Tintic	Salt Lake City
Utah Smelting & Mining Co.....	3,000	300,000	Utah	Tintic District	Tintic	Salt Lake City
Emma Hill Tunnel & Mining Co.....	10,000	500,000	Utah	Little Cottonwood	Little Cottonwood	Salt Lake City
East Canyon Mining & Tunnel Co...	20,000	2,000,000	Utah	Ophir District	Salt Lake City	Salt Lake City
North Star Mining & Tunnel Co.....	20,000	2,000,000	Utah	Ophir District	Salt Lake City	Salt Lake City

Farmington, Big Cottonwood canyon, Little Cottonwood canyon, Payson and Salt Creek. The most extensive bodies of iron ore were those in Iron County, from which the iron smelting works of southern Utah were run in the early '50s under the superintendency of Mr. Duncan. These works were established at Iron City, Pinto Creek, Iron County, where operations were followed by those of the Utah Iron Mining and Smelting Company, organized at the same site and formally opened September 8, 1870, with a capital stock of \$100,000, of which \$32,000 was paid in. Still another concern, the Union Iron Company, was put into operation in Iron City in January, 1869, with two furnaces. The last named company built an extensive foundry in connection with their reduction works and ran to the full capacity of one of their furnaces.

The discovery of coal, near Coalville, has been mentioned elsewhere. A branch line of the Union Pacific was built from Echo to serve these mines. In early days the coal was hauled a distance of four miles by teams to the railroad. Coal beds of good quality were also located near Evanston, which was formerly in Utah Territory. Coal was also discovered eight miles east of American Fork which supplied the Utah valley settlements for many years. Another coal bed was found in Salt Creek canyon in the Mount Nebo mining district. The original name was the Manhattan Coal Mine, operated by the Diebold Coal Mining Company. In 1870 the San Pete coal beds were considered the most promising of any in Utah. This was not only due to their extent and superior quality, but also on account of the fact that some of the coal from this locality could be coked, producing the necessary material for smelting operations.

In addition to all of the above, vast coal beds were discovered in Iron County and, in fact, there is hardly a county in the State where coal has not been found.

It is stated that the first fire clay deposits were located on City Creek about six miles from Salt Lake City. The next deposit was reported from what is now Bountiful, (Sessions of the old days), in Davis County. Clay of a somewhat different composition from those above mentioned was also discovered at Camp Floyd but was mixed with lime which impaired its lasting qualities.

Sandstone was found at an early date

in Echo canyon, at the Red Buttes near Camp Douglas. The Echo canyon sandstone was not of very good quality but the Red Butte product near Camp Douglas was of a superior grade. Red Butte sandstone was used almost universally in the construction of early blast furnaces in Utah Territory.

In early days an army officer asked Brigham Young where he could obtain salt to make cornbeef. The answer was an exceedingly practical one,—“drive your animals to the shore of Great Salt Lake, slaughter them and salt them down.” Great Salt Lake was not only a source of supply for Utah Territory but also for Nevada, Wyoming, Nebraska and Colorado. As early as 1872, 450,000 pounds of salt were produced of which 40,000 pounds were used in Utah Territory and most of the balance exported to the states named above.

In 1896, the leading smelter was the Conklin, which treated approximately 60,000 tons of ore. The works were run day and night and occasionally 400 tons of ore were treated in 24 hours. Fifty men were employed.

In 1895, the Hanauer Smelter produced 8,170,000 pounds of lead; 625,000 pounds of copper; 770,500 ounces of silver and 7,820 ounces of gold. Plans were made that year to increase the output in 1896 by at least 20 per cent.

The same year, 1895, the Germania Lead Works produced 16,930,700 pounds of lead; 2,091,750 pounds of copper matte; 952,502 pounds of copper; 1,722,740 ounces of silver, and 9,753 ounces of gold. Three hundred fifty men were employed in 1895 and plans were made to increase the output in 1896, 15 per cent over that of 1895. The Germania plant was located just north of the present A. S. & R. plant at Murray.

The Pennsylvania Smelting Company, located at Sandy, produced 9,012,391 pounds of lead; 237,400 pounds of copper; 906,698 ounces of silver; 79,027 ounces of gold; and had prospects of doing much bigger business in 1896. One hundred sixty men were employed in these works in 1895 but the plant had a capacity of handling twice the amount of ore treated.

The Pioneer Sampler at Sandy treated 16,075 tons of ore in 1895 and nearly twice that amount in 1896.

Another sampler was one run by the Taylor and Brunton Company at Pallas Station, south of Salt Lake City. In 1895

this concern treated 56,571 tons of ore. The Park City Sampler, at Park City, started operations December 1, 1894, and treated 33,645 tons of ore and concentrates. It was estimated that the sampler would handle 50,000 tons in 1896. Another concentrator at Park City, known as the Peck Concentrator, was constructed in 1896 primarily for the treatment of vast tailing dumps of the Ontario and Marsac Mills.

It will be seen from the above figures that the "boys" who operated thirty-five years ago didn't do so badly, nor were they without their sense of humor. Mr. Olaf Johnson, now in his 84th year, worked in the Germania smelter for twenty-two years also in many other early smelters. Mr. Johnson relates that employees at one plant were required to pay the superintendent a dollar a month or lose their job. Mr. Johnson refused and was promptly fired. Shortly afterwards the superintendent was dismissed; he died a few weeks later. About a week after the superintendent's death, Mr. Johnson was surprised to receive a letter, allegedly written in Hell, in which the superintendent stated that he was running a big smelter there and would give Mr. Johnson a steady job as an assayer. Mr. Johnson thinks that this was a good joke on the superintendent.

The Mercur district was formerly called "The Johannesburg of America." What is now Mercur was started in 1870, the town then being called Lewiston. In 1871 the Carrie Steele strike was made and the former town of Lewiston sprang up like a mushroom. In the spring of 1881, Arie Pinedo, a German, located the Mercur lode claim and proceeded to patent it. Pinedo thought he had found a vast body of mercury and the town was named in honor of the discovery. From that time on Mercur has had a varied history. At present another "mercury strike" is reported.

Another noted company, operating in the same district, was the Malvern Gold Mining Company of which Mr. John Dern, father of the present governor of Utah, was president. Mr. Dern was also president of the Mercur mine. With him were associated Dooley, Officer, Dorsey, and others well known in early mining days.

Mention should be made of the Dalton and Lark mines purchased in 1890 by Messrs. J. Schenck and H. H. Rea. The Dalton and Lark Silver and Lead Mining

and Milling Company was organized February 24, 1896, with a capital of \$2,500,000. A dividend was declared on the first day of March following, and according to early mining records, "the same pleasing performance was repeated every month thereafter." The mill was completely destroyed by fire on July 24, 1896. The Dalton and Lark properties are now operated by this company.

The Jordan and Galena have been mentioned. The Old Telegraph was another early mine located in what was known as Bear gulch. In its day it was considered one of the greatest producers of gold, silver, lead and iron. It had a total output of some \$11,000,000 and a production of 600 to 1,000 tons per month.

Another famous mine was the Bullion-Beck, identified for many years with this company. To quote John Beck: "I rolled down hill onto the Bullion-Beck mine in 1870." After some difficulties with two other men about possession, he established his rights and began work; the mine produced more than \$10,000,000 in ores.

Closely associated with the Bullion-Beck was the Centennial Eureka, also identified with this company. The Centennial Eureka was one of the few mines in the State whose stock sold steadily for more than par. In 1896 it had the deepest shaft in the State—1535 feet. Work there began on September 12, 1884, with J. D. Kendall in charge. Mr. Kendall continued until August 1, 1896, when Mr. C. E. Allen, (at that time Congressman from Utah, and later general manager for the U. S.) became manager. Captain J. T. Woodman was president of the company with J. E. Bamberger, vice president, and W. W. Chisholm, director.

To show the versatility of mechanics in early days, a 6½-inch diameter telescope was built at the Eureka shops for Mr. Chisholm. All parts of the telescope, even to the brass castings, were made at the mine with the exception of the lens which was made outside.

The history of early mining in Utah would fill volumes. Names like McCornick, Kearns, Keith, Chambers, Lawrence, Marks, Moffat, Hardy and DeLamar should not be forgotten.

Mining in southwestern Colorado had its beginning in the early '60s when Captain Baker led a party of Denver miners into the Animas valley and worked placer grounds just south of the Eureka

mill. Baker's camp was on the site of the present town of Silverton which basin was then called Baker's Park. The first attempts resulted in failure. As in Utah, claims were located and abandoned and there were many unsuccessful attempts to operate. In the '70s, however, the work was well under way. F. Anton Eilers, one of the organizers of the A. S. & R., distinguished himself at the Greene smelter on the outskirts of Silverton, also at Pueblo and at the Germania near Murray, Utah. Likewise, the U. S., which had its beginning in Utah, later acquired the control of the Sunnyside properties. It is said that the process of tin plating was worked out just north of Silverton.

Early travel and freighting were as romantic and interesting as mining. The map which appears in conjunction with this article shows many early routes and many historic points. Some of the members of the early pioneer parties kept journals and nearly all made some references to oil, copper, lead, silver, gold, lime or other minerals. While many of these companies were formed for the purpose of making agricultural settlements, they did not fail to note signs of minerals. The early agricultural settlers in Utah, Colorado, Wyoming, Montana and other western states, derived great benefits from sales of produce to miners.

The most profitable occupations west of the Mississippi river are agriculture, stock raising, railroading, mining and manufacturing, the last named being unimportant compared with the others. All of these are what might be called fundamental industries and each of these industries should be encouraged for they are all dependent upon each other, and upon them depends the future prosperity of more than 30,000,000 people.

Sentiment is the mother of interest and the grandmother of success. A study of what has been done through persistence and sacrifice makes an excellent basis for future activities.

In the meantime has humanity lost interest in everything, including gold rushes. A big strike was recently reported in American Fork canyon. An old miner writes on it as follows:

"These modern gold rushes are enough to make the old prospector of '49 turn over in his desert grave.

"What a difference between the modern strikes and those that quickened the old

fellow's pulse and wearied his legs.

"Eight years ago when rumor of 'gold' was wafted to a settlement, an exodus occurred. Towns would be moved over night by a frenzied populace to the scene of excitement. A boom would be on, and gold-mad humans would tear at the earth with picks, shovels and even hands.

"Recently word of a large gold strike in American Fork canyon reached Salt Lake. Though the public pulse may have been accelerated, the rush, if there was one, occurred at the stock exchange. Speculators quietly called their brokers and participated in the rush without moving from their office chairs.

"It seems that even the 'lure of gold' has been civilized."
