Alvarado Sugar Beet Factory

And the Dyer family that founded it

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By
Timothy Swenson

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Timothy Swenson

Foreword

Having lived in Union City, formerly Decoto and Alvarado, since my birth in 1954, the Holly Sugar factory was ever present. As a kid, when my father drove us home from an out of town trip to the North, we always took the Whipple Road exit on the Nimitz freeway. The Holly Sugar stack was clearly visible and a landmark. Growing up, there was always a Holly Sugar little league baseball team. Little league baseball teams were named after the businesses that sponsored them back then. As a teenager, I always looked forward to driving north on the two lane Alvarado-Niles Road. The Holly Sugar smoke stack was my guide into Alvarado.

As an adult, on my tenure as a Union City councilmember, I reflect back and I am thankful for Holly Sugar and the part the factory and its employees played in the history of Union City. Had it not been for them, Union City would never have been created and Alvarado and Decoto would have become part of Hayward. That story is for you to read in another history book.

The sugar beet factory was one of the major employers in the area. In talking to residents who had parents that worked at the factory, I was told by some that both father and

mother worked there. In addition to the factory work, the sugar beet business provided employment to the cattle farmers of the area. Of course, the process started with the growing of the beets by local farmers.

I am grateful to Tim Swenson for having taken the time to research the history of the sugar beet factory and compile that history into this book. If it were not for Tim's efforts, this important part of Union City history would be lost. It is one thing to drive by the historical marker of the factory that is on Dyer Street and wonder about it. It is another thing entirely to be able to pick up this book and allow yourself to go back in time and relive the experience.

Carol Dutra-Vernaci
Mayor, Union City, California

Introduction

For just over a hundred years a factory existed in Alvarado that took simple sugar beets and turned them into refined white sugar. The factory was really a number of factory buildings that were built over the years, from a simple small wooden factory to a large all-metal factory with an iconic 200-foot smoke stack.

Alvarado, now part of Union City, was a small town on the banks of Alameda Creek, on the eastern shore of San Francisco Bay, about half way between Oakland and San Jose. Founded in the 1850's, Alvarado had a few shops, hotels and saloons, and surrounded by farms growing all manner of produce. When Alameda County was formed in 1853, Alvarado was the business center of the new county and was the Count Seat for the first few years of the County.

It was in 1870 that Ebenezer Herrick Dyer founded the first successful sugar beet plant in the United States. Like most Californians in those days, Ebenezer was originally from the East Coast. He and his brothers, Ephraim and Asa, came to California from Maine. Also from Maine was the Ingalls family, who helped the Dyers take a small sugar concern and make it into a profitable factory. The

relationship between the Dyers and Ingalls was more than business, as both Ebenezer and Ephraim married sisters from the Ingalls family. Besides the factory itself, Ebenezer founded a company that turned his experience with sugar beets and sugar beet factories, into a business that designed and built sugar beet factories all over the world. Ebenezer, or E. H. as everyone called him, became known as the father of the sugar beet industry in America.

The factory lived well beyond the life time of Ebenezer. The factory, bought out by a larger sugar company, continued to operate until the early 1970's. Like the agriculture that supported it, the land for the plant was more valuable for development than for a factory. Beets that were first coming from just miles of the factory, were later coming from the San Joaquin valley. With other sugar beet factories located closer to the beet fields, the factory in Alvarado was no longer needed.

Attempts were made to save at least some buildings on the property due to their historic nature, but there was no support from local government. The wrecking ball removed the traces of every building on the property. On February 7, 1976, a few sticks of dynamite brought down the smoke stack that had symbolized Alvarado for more than 40 years.

Today, nothing exists of the factory other than a California Historical Marker, a name on a small park and community center, and the memories of the older residents of Union City.

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Chapter 1
History of Beet Sugar

There is evidence that as early as 3,000 B.C. that the sugar beet was used in Southeast Asia, the Mideast, and Egypt. The Romans cultivated the sugar beet but they did not extract the sugar from the beet. Through contact with the Romans, the sugar beet was cultivated in Germany.

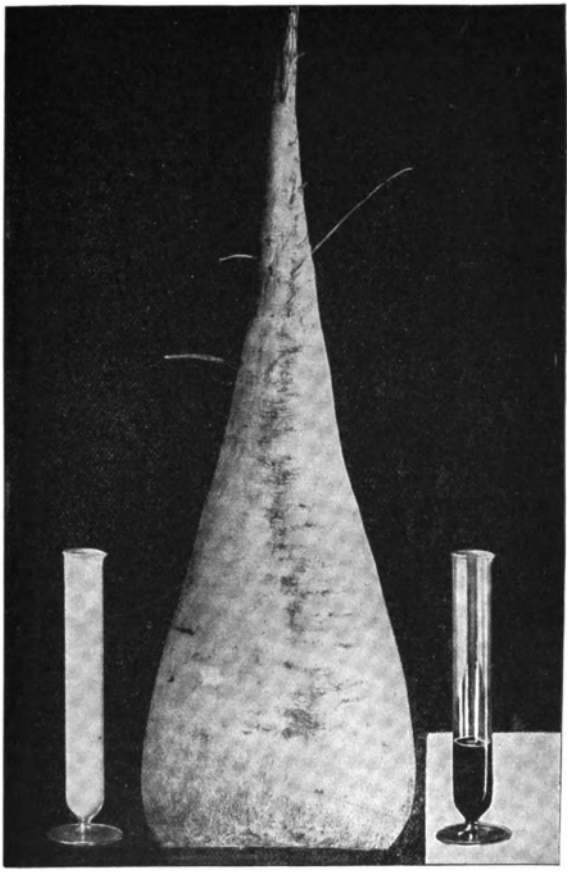
About 1590, French botanist, Olivier de Serres extracted a sweet syrup from sugar beets, but his process did not catch on. In 1747, a chemist in Berlin, Andreas Marggraf used alcohol to extract sugar from the sugar beet. It was his belief that the amount of sugar in the beets did not make it a viable source for sugar production, so he did not pursue the matter any further. Fifty years later, a student of Marggraf, Franz Karl Achard, decided to work on beet sugar and how sugar could be extracted from beets. His work was successful and he founded the first beet sugar factory in 1801 in Kunern, Germany.

After Nelson defeated the French Navy at Trafalgar in 1805, Napoleon was facing a blockade cutting off Europe from foreign goods like cane sugar. Once Napoleon heard that it was possible to make sugar from beets, he decided that the sugar for Europe would come from sugar beets.

The Gennert brothers from Germany setup a factory in Chatsworth, Illinois, in 1836, with 2,300 acres of land planted in sugar beets. The factory had a capacity for 50 tons of sugar. A combination of bad harvest, bad equipment, and poor sugar content, caused the business to be abandoned.

In Massachusetts and Michigan in 1838, there were attempts to produce sugar from sugar beets. In Massachusetts, David Childs attempted to make sugar by first drying the beets and then extracting the sugar. A factory was built and over 1,300 pounds of sugar were produced, but the factory closed in 1840. In Michigan, a small factory was established in White Pigeon using machinery from Europe. The factory was able to process five tons of beets a day. The lack of good technology forced the plant to close in 1840.

In 1854, a beet sugar plant was built in Provo, Utah, by the Mormons, using English machinery that had to be hauled to Utah by ox cart. The factory did not become a success due to lack of experience and bad weather.



Sugar Beet

Chapter 2

The Dyer Family

Ebenezer Herrick Dyer and Ephraim H. Dyer were two of nine children of Joshua and Elizabeth Dyer, of Sullivan, Hancock County, Maine. Ebenezer was born April 17, 1822 and Ephraim on March 2, 1828. Joshua Dyer first married Sally Ames, who died in 1808 after having two children. The Dyer family genealogy says that Sally Ames died in childbirth along with her child. About 1810, Joshua married the former Elizabeth Sawyer. Joshua supported his family by farming.

Joshua's father was Ephraim Dyer who was born in England and "recruited" into the British Navy. Once his ship was in America, he jumped ship and joined the Colonial Army, fighting with Washington and La Fayette. He was at Valley Force during its infamous winter. He fought against Burgoyne and watched his surrender.

Another family from Hancock County, Maine, the Ingalls family, were just as important to Alvarado. The Ingalls were also important to the Dyer family, and the two families share a family plot in Cypress Cemetery, now Chapel of the Chimes.

Benjamin Ingalls, a shipbuilder, married Sophronia Thomas in 1833 and had five children, the three oldest being girls (Marion, Ellen, and Olive). On June 15th, 1850, Ebenezer Dyer married Marion Wallace Ingalls, the oldest daughter of Benjamin.

While in Sullivan, Ephraim Dyer worked as a shipyard clerk, surveyor and school teacher. Ebenezer had a general mercantile business and also dealt in stone quarrying and shipping. A business card from 1850 stated that he was a "contractor for Sullivan Granite."

On May 28, 1850, Ephraim Dyer headed to the gold fields of California, sailing from New York on the steamer *Ohio*, transferring to the *Falcon*. Like most travelers at the time, he went to California via Panama. While in Panama, he caught what was called "Panama Fever" while waiting for transport on the west coast of Panama. Knowing that sitting in Panama would not be good for his health, he sought immediate departure on the British ship *Guinare*, selling his original steamer ticket. During the first ten days after leaving Panama, quite a number of passengers with Panama Fever died. The rest had recovered and were quite well before reaching San Francisco, on September 17, 1850. Ephriam initially worked construction jobs in San Francisco, including a job planking Clay Street for $10 per day.

There was a cholera outbreak in San Francisco. After his two roommates died, Ephraim knew that he had to get out of the city. He found a small steamer heading to Union City (later called Alvarado). He visited Elias Beard at the old Mission in Mission San Jose hoping to acquire some farming land, but Beard was not interested in selling. On his return trip to San Francisco, Ephraim ran into a Mr.

Etching of Ebenezer H. Dyer from 1888

Stock Certificate for the Odd Fellow Hall Association, from 1864, with Ebenezer Dyer signing as President.

Cheney, living near land owned by John Horner. Ephraim was able to secure some land for share cropping. Cheney provided the land, seed, feed, and Ephraim board for one-half of what he was able to produce. Later Ephraim worked for John Horner, hoping for another chance at share cropping.

In 1852 Ephraim next moved to Los Angeles spending 4 years working in the packing and shipping of grapes to San Francisco as the "Spread Eagle" brand. Grapes were expensive in San Francisco but very cheap in Los Angeles. Ephraim leased land with sixteen thousand vines, two hundred peach trees, other assorted fruit trees, and a house. His second year in Los Angeles he shipped 50 tons of grapes to San Francisco.

Asa Dyer, the oldest of the Dyer brothers, came to California just after Ephraim went south. Asa also found work with John Horner. Trained as a ship builder, Asa maintained the ships that John Horner owned and used in his business to run produce and goods to and from Union City and San Francisco. Asa was employed by John Horner to build a bridge across Alameda Creek, and to work on the Horner flour mill. Asa's wages were $100 a month. After working for two years in California, Asa returned home to Maine.

Ephraim realized that too many others were now in the grape business so he sold his assets in Los Angeles and returned to Alvarado in 1855. His work in grapes was very profitable, leaving a fair bit of funds for investment. Ephraim purchased land relatively cheap and created a produce merchandising business. His business prospered

so much that Ephraim needed his brother, Ebenezer, to assist in running the business.

In the late 1850's, Ebenezer, still in the shipping business, lost his main ship in the Bahamas. This allowed him to move to Alvarado to assist his brother, arriving in Alvarado in the fall of 1858. Within a few months of arriving, Ebenezer headed back to Maine to retrieve his wife, Marion and his two children. Marion described the trip to California as such:

"The only thing that we had to relieve the monotony of the voyage was when we called at a port which was not often, and then only a glimpse was to be had from the ship, making one feel all the restiveness of a poor prisoner."

Ephraim set his brother up by renting a hotel room from Joseph Ralph, and furnishing it with provisions and furniture. The hotel room cost $10, the parlor carpet cost $39, the chamber set cost $50, and sundries cost $62.

In 1858 Ephraim headed back east to Missouri. He was looking to explore a route to drive cattle from the Midwest to California. Ebenezer had to watch over Ephriam's sheep business near Niles, so he had a small house built and moved his family there for a short while. Sometime before 1858 Benjamin Ingalls, moved his family to Illinois. Ephraim met the Ingalls family in Illinois and married the second oldest sister, Ellen Frances Ingalls, on June 2, 1859.

Ephraim purchased horses, oxen, and cattle in Missouri and hired his brother, Asa, to drive them west. When leaving Fort Laramie, the group had 518 head. When they reached California they were down to 325 head. The herd was wintered in Almanor Meadows, near Chester.

After getting married, Ephraim and Ellen visited family in Maine and shopped for household items for their home in Alvarado, including $53.50 in silverware, and over a $100 in books.

In 1857, Ebenezer was leasing land for Graves & Dyer by the acre. When the business first started the number of acres rented was mostly an educated guess. Ebenezer fixed up an old surveying instrument, and relying on his past experience of surveying in Maine, he surveyed the rented land. Because of this he became known locally as a surveyor. In 1859, he was approached by Judge Ben Williams and asked to run for County Surveyor on the Republican ticket. In 1860 Ebenezer was elected County Surveyor of Alameda County for two years. He was re-elected in 1862 and served until 1864.

Because of his past experience as a surveyor, Ephraim was appointed the Assistant Surveyor of California, Oregon, and Nevada, by Lt. Beale, the U.S. Surveyor General. Ephraim held the position for ten years, surveying most of Northern California "from Tahoe to the Oregon line, including the canyons of the Bear, Yuba, and Feather Rivers, the meander lines of Tahoe, Donner, and Independence and Honey Lakes and much of the surrounding territory. Mount Dyer, a high peak in Plumas county, commemorates his name and work in this locality." Ebenezer was appointed the position of U.S. Deputy Surveyor for California in 1861. Ebenezer was also working in conjunction with his brother. Their brothers-in-law, Wilfred, John and Frank Ingalls, were also involved in surveying.

In 1863 Marion Dyer drowned in Alameda Creek, leaving Ebenezer a widow. He married his sister-in-law, Olive, the 3rd daughter of Benjamin Ingalls, 17 years his junior.

Ebenezer had a total of six children. The three children from his first marriage were Abitha Marion born April 21, 1857, Ellen Frances born December 23, 1855, and Edward Franklin born July 22, 1858. The three from his second marriage were the twins Hugh Thomas and Guy Sawyer born May 8, 1868 and Nina born December 29, 1878.

Ephraim also had six children. They were Harold Parker born May 29, 1860, Henry Sawyer born August 19, 1864, Hubert Paul born December 23, 1867, Edith born March 13, 1870, Ernest born September 4, 1872, and Ephraim Ingalls born July 18, 1881.

In 1862 the Alvarado Home Guard was formed as part of the California Militia, in response to the Civil War. Ephraim was the Captain and Commander of the Guard. Other officers were 1st Lt. C. P. Johnson; 2nd Lt. Joseph McKeown; and 3rd Lt. H. C. Smith. There was also Orderly Sgt. Frank Gilman. A number of local women sewed together a flag for the Home Guard and presented it to them. Capt. Ephraim Dyer replied to them;

"Ladies. In receiving from your hands this beautiful flag, permit me in behalf of the Alvarado Guards, to tender to you our warmest thanks. As you have remarked, it is the symbol of our nationality. Around its folds cluster the cherished memories of the past - the apprehensions of the present hour - the hope of a bright and glorious future. No truly loyal American can look upon his country's flag without emotions of peculiar love and reverence. But, this flag presentation by loyal ladies of this crisis of our

country's history, while our fellow countrymen are pouring out their life's blood in defense of its honor .. will ever be regarded with more than ordinary affection. Although as an organization we may never be called upon to take part in this great contest, yet should our country call, I trust and believe that the honored recipients of this magnificent gift will never cause its fair donors to blush with shame that we faltered in its defense or proved recreant to those great principals of liberty bequeathed by our forefathers and, which it is our duty to aid in transmitting unimpaired to posterity. Ladies, we again thank you."

In 1864, the Odd Fellows built a two-story building for their hall. Ebenezer, president of the organization, helped organize the funding drive, selling shares of the Alvarado Odd Fellows Hall Association. Four hundred shares were sold at $10 per share. The upper story held the lodge room, banquet hall and library. The lower story was used as a public hall. They had a grand dedicatory ball on Sept. 23, 1864. The Alvarado Guards also used the facility as an armory.

Always looking for a keen investment, Ebenezer joined with other investors and formed the San Joaquin Valley Canal Company. The canal was to take water from the San Joaquin river just north of Fresno and provide water on the west side of the San Joaquin valley and as far north as Antioch. The canal was to be used for water and for canal boats, transporting freight around the valley. The company was founded on November 22, 1866, with the following officers; W. H. Graves, President; William B. Carr, Treasurer; Ebenezer H. Dyer, Chief Engineer; and Albert N. Winn, Secretary. Ebenezer and Ephriam surveyed the area for the canal, but little came of the effort. Stocks in the venture went from $100 to $40 in three months.

In 1868 Ebenezer built his house, a two-story Victorian, with 14 rooms. It was built on Sugar Mill Road next to the factory property. When Ebenezer was building his house, a large earthquake struck on the Hayward Fault, seriously shaking the East Bay from Mission San Jose all the way to Berkeley. Ebenezer has this to say about the earthquake:

"At the time of the great earthquake of 1868, I was building the house in which I now reside. The first shock was sufficiently severe to ruin all the chimneys and to do great damage to other buildings. There was a 2000 gallon tank full of water on the roof of the ell. My house tipped enough to spill more than a third of the water over the top of the tank."

In November 1875 Ella F. Dyer, daughter of Ebenezer, was taken to Stockton to a sanitarium due to ill health and reported insanity. By early December, she had recovered and was back home. In 1876, Ebenezer Dyer was elected as a delegate to the National Republican Convention.

Dyer family writings tell that Ebenezer was the head of the Dyer family, always helping his family with a job, or a place to stay. In his home he had a Chinese cook by the name of Gung. Gung was apparently a "tyrant" in the kitchen and was occasionally fired, but was rehired "before the family regime was too upset."

Looking back on his life, Ebenezer has this to say about this childhood:

"In many respects I was unlike my brothers and sisters. I disliked working our New England farm whose principal crop was rocks, therefore the family called me lazy. I was willing enough to work in the logging camps or saw mill or

another work that I liked. Perhaps there were not many kinds of work that I did like, not enough perhaps to satisfy the other members of my family. Perhaps one of father's hired men gave the best definition of my character. 'Herrick [Ebenezer] is not lazy but he does not like to work.' But I had to work nevertheless and I believe that I did my share, but I can not say that I had a happy boyhood. If my mother had lived, I believe that it would have been different."

Ebenezer's mother passed away when he was young, and he later wrote this about his mother:

"My mother must have died when I was about nine years old, consequently I can remember but little about her. In my boyhood I disliked school and I can remember that my mother was obliged to go to the school house with me and deliver me to the teacher. That incident and a few others of similar character is about my only remembrance of a mother that was universally respected and beloved by her family and friends."

Ebenezer wrote of his brother in this way:

"In his early boyhood he was noted for his studious habits. When other boys of his age were at play, he could be found engaged in his books. At middle age there were but few graduates of our universities whose education was superior to his. He was a hard working student all his life. When a small boy we would sit in the corner of our large brick fireplace and study evening after evening during the winter when other boys of his age were enjoying themselves skating on the mill pond or coasting on their sleds. I can remember as though it was yesterday, his studying Latin in

the chimney corner. He was translating Aesop's Fables reading aloud unconsciously to the amusement of the family. I still hear his 'Fabula Dicet' ringing in my ears."

Chapter 3

California Beet Sugar Company

(1870-1874)

After settling in Alvarado, Ebenezer started reading in the agricultural press the work that had been done with sugar beets. In 1867, only 10% of the sugar consumption in the United States came from native sources. So 90% or 405,000 tons of 450,000 tons was imported. This interested Ebenezer, so he sent away to Germany for some sugar beet seeds and planted a test plot of 150 acres. The sugar beets seemed to do well. Since the Dyers were quite well off, they were looking for a venture to invest their money and a sugar beet factory might do.

In 1867 A. D. Bonesteel, persuaded two fellow Germans to move to Fond du Lac, Wisconsin to build and run a sugar beet factory. Andreas Otto and Ewald Kleinau had been working in a sugar beet factory in Germany before coming to America. In 1868 the factory was built and the Pioneer Beet Sugar Works was founded. The location was chosen because the climate was similar to Germany and there were a number of local German immigrants who had sugar beet growing experience.

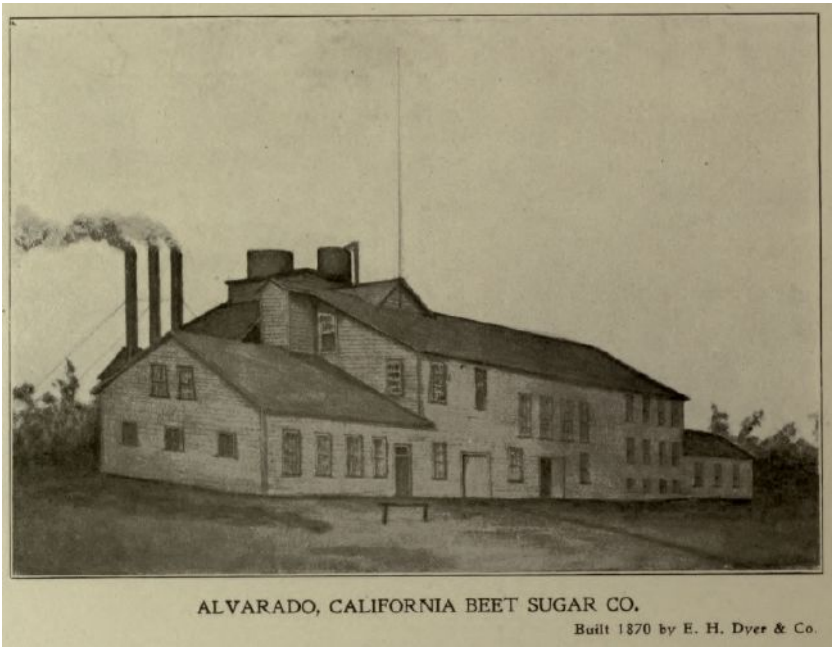
The plant cost $12,000 and had a capacity of 10 tons of beets per day. The process used was that of grating the beets and then pressing them to get the juice. A more

economical process had just been introduced in Europe, making the plant almost obsolete from the start. The factory ran for two years. The crops were taken from the local farmers and the resulting sugar was sold to the local residents.

At about the same time Ebenezer published his success in growing sugar beets in Alvarado. Mr. Bonesteel wrote a letter to another Alvarado resident, General C. I. Hutchinson, who passed it on to Ebenezer. Both men took an interest in what was happening in Fond du Lac. General Hutchinson traveled to Wisconsin, to meet Mr. Bonesteel, Mr. Otto and Mr. Kleinau. The Germans heard stories of California from the General and were interested in moving. Ebenezer shipped 200 pounds of beets from the 1869 harvest to Fond du Lac for Mr. Bonesteel to try out in the factory. After processing the beets and analyzing the amount of sugar in the beets, he sent a note to Ebenezer stating, “Your beets are full of sugar and we are full of California.” The California beets tested at "twelve percent saccharine matter of which eight percent is sugar."

Ebenezer Dyer, General Hutchinson, B. P. Flint, W. B. Carr, J. N. Risdon, W. T. Garrett, E. G. Rollins, E. R. Carpentier, and other investors formed the “California Sugar Beet Company”. The company had a capitalization of $250,000 with half of the funds designated for the building of the factory, the other half for land and operating costs. They immediately started work on a factory in Alvarado and sought to bring the three Germans to California. Mr. Bonesteel, Mr. Otto and Mr. Kleinau all agreed to come to California.

Mr. Bonesteel could not move to California until he had the factory sold. General Hutchinson was able to get the



Drawing of the original factory from 1870

California Sugar Beet Company to purchase the Fond du Lac factory so Mr. Bonesteel was free to come to California and run the Alvarado Factory. The equipment from the Fond du Lac factory was partially sold and the rest junked.

A site was selected on Ebenezer's farm and ground was broken for the factory on May 9, 1870. The centrifuges and other special machinery were ordered directly from Germany. Other machinery was designed by Mr. Otto and was built by the Union Iron Works of San Francisco, with H. J. Booth, G. W. Prescott and Irving M. Scott the proprietors. Construction of the factory was supervised by B. F. Ingalls, the father-in-law of both Ephraim and Ebenezer. John Hammond of San Francisco was the machinery erector and Mr. Rollins was the millwright. Sons of both Dyers and the Ingalls were involved in construction: Harold P., son of Ephraim; Edward F., son of Ebenezer; Merrel W., son of B. F. Ingalls.

The factory started operations on November 15, 1870, with the first ton of finished sugar being ready a few days later. A special barrel, made of walnut with brass hoops, was constructed, filled with course-grain sugar and sent off to President Ulysses Grant.

The whiteness of the sugar was created by filtering with bone charcoal, which was produced at the factory by roasting bones in air-tight iron cylinders.

In 1870 Alameda Creek, which ran right next to the factory, was 100 feet wide and between five and six feet deep, and provided the best way to ship the sugar to San Francisco. Ebenezer built a small side-wheel steamship called *The Rosa* for his shipping needs. The ship was five feet wide and thirty feet long.

The sugar beets were planted from March until June, spreading out when the beets would become ripe. The "campaign" or factory season would run from September until the following March. The operation was directed by ten white men overseeing 65 Chinese workers. From 1870 to 1873 the factory produced 293, 448, 629 and 840 tons of sugar, respectively. The cost to produce the sugar was ten cents a pound and the retail cost was 12 to 15 cents a pound.

In 1873 the factory had 350 oxen, owned by Miller and Lux, in a number of pens on the factory property. The oxen were fed the beet pulp refuse in two large cattle sheds, each 500 feet long.

After the 1873 season, the total profits were not as much as expected and the company was liquidated. There was disagreement between the Dyers and Bonesteel, Otto and Kleinau over the running of the factory. Bonesteel and the Germans purchased the equipment and moved it to Soquel, just south of Santa Cruz. The land and buildings were sold back to Ebenezer.

In the fall of 1874 the plant at Soquel was started, but the high expectations were not met by the new location. The plant could barely get a yield of 4 tons per acre, whereas in Alvarado 20 tons per acre was considered a poor yield.

Chapter 4

The Sugar Beet Process (1870)

The process of extracting the sugar from the beets is fairly simple: extracting the sugar in the juice, boil it to reduce and dry to sugar crystals. The chemistry came in when using chemicals to extract unneeded solid particles and to bleach the sugar white. The details of the process are as follows.

The beets were brought to the factory by wagon team. The beets were elevated into the washer. The washer was a slotted wooden drum twelve feet long and three and a half feet in diameter, sitting in a tub halfway full of water. The drum turned the beets washing field dirt from them. The washed beets were taken to the rasping machine on the third floor, to be grated into a fine pulp. The rasper was a cylinder about twenty-four inches in diameter, with saw-tooth cutters, all revolving at 1,000 revolutions per minute (RPM). From there the pulp was transported to centrifuges on the second floor, where the water was extracted from the pulp. The ten centrifuges were thirty inches in diameter and thirteen inches deep, also revolving at 1,000 RPM. Water was sprayed onto the pulp to help extract the sugar juices. The pulp was removed from the centrifuges and sent to the ground floor for storage. The beet juice was pumped to the first filter press and then to the defecators. The defecators

mixed the juice with lime, carbon dioxide and was boiled. The juice was then pumped through a second filter press and into the thin juice charcoal filters. There were six charcoal filters, thirty inches in diameter and twenty feet deep. From there the juice headed to the double effect evaporator, then through the thick juice charcoal filters, which are similar to the other charcoal filters. The juice went next to the pan supply tank to feed the vacuum pan, which boiled the juice into a thick syrup. The syrup went to the pulp mill where it was kneaded into the right fluidity by another set of four centrifuges. The final sugar product was washed with steam and spread out on the floor of the hot room, where it was turned until it was dried. From there the sugar was packed into barrels and ready for market.

Chapter 5

Standard Sugar Refining Company

(1879 - 1887)

Ebenezer did not give up on the idea of sugar manufacturing from sugar beets. He continued to grow sugar beets on his property and keep an active interest in the other sugar beet companies in America, including factories in Brighton and Isleton. He encouraged his son to move into chemistry. Edward Franklin (E. F.) studied chemistry at the Oakland Military Academy and took a course in Business Administration from Heald's College in San Francisco. The twins, Hugh Thomas (H. T.) and Guy Sawyer (G. S.) majored in chemistry at Stanford and Berkeley, respectively. Ephraim's sons, Henry S. (H. S.) and Hubert both studied chemistry. Henry S. graduated from Berkeley and Hubert apprenticed at the Union Iron Works in San Francisco to study draftsmanship and machine design.

In 1877 the opportunity that Ebenezer had waited for came about. The machinery from the factory in Brighton was available for sale. It was purchased from Germany in 1870 for $160,000, and was available for $45,000. Two sugar beet technologists were also available, Ernest Gennert and Wilhelm Kuhlberg.

Ebenezer put together a proposal for a 75-ton factory and started searching for investors. After two years, he was able

to find J. P. Dyer (no relation), O. F. Giffin, A. E. Davis, J. H. Waggoner, and Robert H. Graves. With these investors, the Standard Sugar Manufacturing Company was created in February 1879 with capitalization of $100,000. Ebenezer was able to purchase the Brighton machinery for only $12,000. Additional investors were impressed with the potential of the company, so another $100,000 was raised and the company re-incorporated as the Standard Sugar Refining Company, with O. F. Griffin as president; J. P. Dyer as vice president; Ebenezer as general superintendent; and W. F. Ingalls as secretary.

The South Pacific Coast Railroad built a narrow gauge line from Santa Cruz to Oakland, which ran through Alvarado less than a quarter of a mile from the factory. With the first trains rolling in 1878 and Alameda Creek starting to silt up, a railroad siding was put in to service the factory. Beets could be shipped in via railroad and the finished product could be shipped out and arrive in San Francisco in a couple of hours.

John A. Shepard and Merrill Ingalls were sent to Brighton to oversee the shipping of the equipment, via rail to Decoto, where it was moved by wagon to Alvarado. Given the condition of the machinery, workers from Union Iron Works, supervised by Harold P. Dyer, were hired to repair and make the machinery ready for operation. Gennert and Kuhlberg assisted with drawing up the design for the factory. The machinery was put into the old factory buildings, making changes to the buildings where necessary. During this process, Gennert decided to pursue other interests in Southern California.

Ebenezer was able to contract with 70 local farmers to plant one thousand acres with sugar beets, all within five miles of

Alvarado. At the time, the water table was shallow, so by the time the rains had ended, the beets roots were able to reach the water table, but weeds were not and they withered in the summer heat.

The beets were planted from March through May and harvested from September through November. Excess beets were stored on the premises, covered with a layer of hay.

In the fall of 1879, William Kuhlberg oversaw the first season with the new factory. The first sugar was produced on November 17, 1879. There was some interruption in the production by mechanical problems, but these were considered daily routines. A blacksmith was on staff to handle any of the problems.

By the end of the 1879 season, a total of 13,000 tons of beets were processed into 616 tons of sugar for a net profit $1,411.73. The early beets contained 15% sugar, but as the season went on, the sugar content dropped to 9%. The sugar was popular in San Francisco, including the Palace Hotel and more popular than cane sugar. For the 1880-1881 season, the plant processed 9326 tons of beets into 593 tons of sugar with a net profit of $23,290.08.

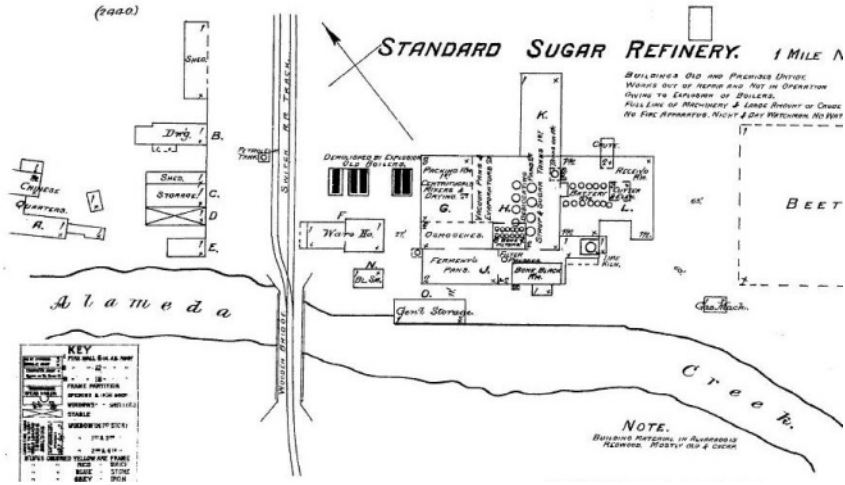
The processing season is only as long as the fields can grow beets. One way to extend the season was to use dried beets. This was something new in 1880 and Ebenezer and Kuhlberg were interested in trying it. Fifty tons of dried sugar beets were shipped from Rancho San Antonio, in Los Angeles County, and delivered to the factory. Tests done before the beets were dried, showed the beets with 12.8% sugar. Since 50 tons of dried beets were the equivalent of 200 tons of fresh beets, Kuhlberg expected about 48% sugar. After testing, the dried beets showed only 23%

sugar. The factory processed eight tons of the beets and found the end result to be quite lacking.

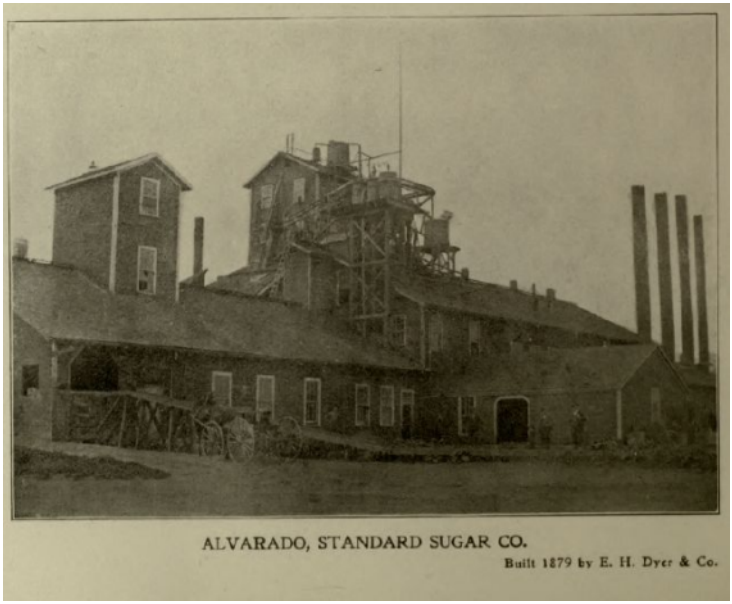
In the 1881-1882 season, Kuhlberg was still supervisor, with Edward F. as assistant supervisor and chief chemist. Harold P. and Merrel Ingalls were in charge of the mechanical operations. Henry S. boiled the sugar and was assisted by his brother Hubert. Although Hugh T. and Guy S. were still in school, they assisted around the factory when they could. W. F. Ingalls was the secretary and the accountant, and took care of the weighing as the farmers delivered the beets. During the season, one of the boilers had a pressure issue and bulged, costing $3,248 to repair. At the end of the 1881-1882 season the factory had processed 11,230 tons of beets for a total of 708 tons of sugar with a net profit of $44,935.85.

To encourage local farmers to plant sugar beets, Ebenezer posted prizes for the best fields of different acreages. First prize was $2.00 per acre and a year's subscription to "The Sugar Beet." Second prize was just the magazine subscription.

For the 1882-1883 season, Edward F. was made factory supervisor, while Kuhlberg was retained as supervisor emeritus. The factory had 91 men working, with 65 of them being Chinese. The Chinese were mostly used as laborers, handling jobs like carrying 2-man buckets out of the dryer room. The Chinese were housed on the factory property, due to the ill feelings of the Alvarado residents toward Chinese. The Chinese were good at their jobs, once it had been demonstrated a few times for them. If there were any mechanical problems, they were taught to seek out Harold P..



Sanborn map from 1887 showing factory soon after the boiler explosion



Photograph of 1889 factory

The Commissioner of Agriculture in Washington D.C. commissioned a report on the "Climatic and Agricultural Features and the Arid Regions of the Pacific Slope." One section of the report was entitled "Report on the Standard Sugar Refinery, Alvarado, California" and was written by R. W. Furnas. The report detailed the operations at the factory and addressed many issues brought up by Ebenezer that prevented the business from being more profitable. The main issue that Ebenezer brought up was the limitation on some of the excess material from the plant, primarily what was called "low products."

The report quoted Ebenezer on this matter:

"In the manufacture of beet-root sugar, we have a large quantity of molasses that is unfit for domestic use, and can only be utilized profitably by distilling into alcohol. This is done in Europe, and is a source of income. This alcohol cannot be converted into whiskey, as it has an unpleasant taste and odor, and can only be made useful in the arts or for mechanical uses. But in consequence of the heavy internal revenue tax, distillers here claim that they cannot afford to pay us but about the cost of cooperage and freight, and we are obliged to run the beet molasses to waste. In consequence of this we lose an important source of income. In Europe, after the molasses is distilled, the salt remaining are all profitably utilized in the manufacture of different chemicals. We are deprived of this tax of all these sources of income. We ask Congress to grant us relief from this loss, by permitting alcohol to be distilled from beet-root molasses and be exempt from paying an internal revenue tax."

Edward F. experimented with improving the beet harvest. He experimented with seed growing, in case the supply of

sugar beet seeds from Germany was halted. In 1883, Edward F. submitted a paper on beet culture and sugar manufacture and won a $1,200 prize from the U.S. Agricultural Commission. An analysis of the 1881 season was published in the August 24, 1883 edition of "The Grocer and Country Merchant."

In 1883, Ebenezer prepared a report for the U. S. Agricultural Department with sales of sugar and molasses of $150,617.50, production costs of $105,681.65, leaving a profit of $44,035.85.

Drought affected the 1883-1884 harvest, with only 7,901 tons of beets coming from the fields, making only 514 tons of sugar for a profit of $22,122,78.

In the spring of 1884, Harold P. and Edward F. went to Europe and toured a number of factories in France and Germany. After observing the production at these factories, a number of changes were made to the Alvarado factory. One improvement was a system of flumes that would float the beets into the factory. As the beets reached the factory, a wheel was installed to lift the beets into the washer, keeping the muddy water in the flumes.

When the factory was built and hooked to the Southern Pacific Railroad, the railroad reduced its shipping rates in order to assist in the development of the factory. The railroad expected other local business would be encouraged and the additional traffic would make up for the reduced rates. The state legislature found out about the reduced rates and proposed a law that would prohibit such an agreement. General Nagle, a whiskey distiller, said that if the Alvarado factory should get such a deal, then so should he, especially since the Alvarado factory was making a

healthy profit. Ebenezer replied to General Naglee that the product of the sugar factory promised much for the good of society, probably a lot more than the whiskey factory. He even hinted that the General might have been sampling his product too much when made his argument.

The 1884-1885 harvest was better than the previous season and large crop of 20,358 tons of beets were grown. The factory could not handle that many tons of beets and processed as much as they could. In March of 1885, the factory stopped production as the beets from storage were too old and has lost a significant amount of sugar. When shutdown, there was still 3,500 tons of beet left and they were offered to any farmer or rancher that would take them. That season, the factory produced 1,084 tons of sugar.

In 1885 a sugar promoter, Wilfred Twinch, had returned from Europe where he toured a number of sugar beet factories. He observed that the size of the Alvarado factory was much smaller than the ones in Europe and that the Europeans would not be able to make a profit with a factory that size. Yet the Alvarado factory was able to make a profit, under the direction of Ebenezer.

In 1885 the factory was processing eighty tons of pulp a day. Beets were purchased at $4.50 a ton. The average sugar ranged from 12.5% to 15%. Total output for the year was 1,250 tons of refined sugar.

In June, 1885 Edward F. Dyer was awarded United States patent number 319,077, for improvements in the process of making beet sugar. In the patent he states: "My invention relates to certain improvements in the manufacturing of beet-root sugar and in the treatment of the molasses, whereby I obtain an increased yield of sugar and greatly

shorten the time of manufacture, saving the expense of handling the low products as well as the chemical and mechanical loss before it is converted into sugar."

Always looking to increase the business, Ebenezer recommended to the stockholders that the factory be expanded from 80 tons to 200 tons. A price war on sugar was making it harder to maintain a profit and expanding the factory would allow the cost of production to be reduced from 5.5 cents a pound to 4 cents a pound. The stockholders did not take any action on this plan.

Ebenezer wrote to Congress suggesting that what is normally spent on sugar from Hawaii, could be invested in California, making 20 sugar beet factories that would equal the production of Hawaii. The plants would return on the investment in increased taxes on improved land values. Congress was intrigued by the idea enough to send out a delegation to Alvarado to look in the proposal, but no action was taken by Congress.

To keep up with modern processing techniques, Ebenezer sent both Edward F. and Harold P. to Germany in March 1885. They went to the factory in Camburg, Saxony and for 2,500 marks, the two worked in the factory for the 1885-1886 season. They worked under the supervision of Dr. Prella, the Superintendent. Harold P. brought over the plans for a 300 ton factory. Harold P. also worked at the shops of Hallesche Machinenfabrik und Eisengiesseri, the factory that build the sugar beet factory in Camburg, and talked with them about the plans for the 300 ton factory. Harold P. stayed in Germany after the factory season ended, but Edward F. returned to Alvarado.

Harold P. decided to propose the creation of a new factory, 4 miles south of Alvarado, on 400 acres that Harold P. owned. The plan was to create a 300 ton factory that would produce 6,000 tons of sugar at the cost of 4 cents per pound. They planned to operate the factory year round, by using dry beets and imported raw sugar when local beets were not available. A number of investors were organized, including John L. Howard, manager of Oregon Improvement Co.; Henry T. Scott, owner of Union Iron Works; James Ralph, William Morris, Oscar T. Sewall, and Ebenezer. The incorporation was being created when one $50,000 investor dropped out of the project, canceling the whole plan.

In 1886, total world production of beet sugar was: Germany 1,115,000 tons, Australia 557,000 tons, Russia 380,000 tons, France 325,000 tons, Belgium 90,000, Holland 50,000 and United States 1,000 tons. All of the U. S. tons were produced in Alvarado.

The 1885-1886 season was managed by assistants as Edward F. and Harold P. were in Europe. A total of 10,500 tons of beets were processed into 672 tons of sugar. Since there was a price war, the sugar was held in a warehouse, hoping that the price war would end and the price would go up, but the price continued to fall.

The 1886-1887 season started with the price of sugar at 5.5 cents a pound, due to the continued price wars. Instead of selling the sugar at such a low price, the sugar was again stored in a warehouse. The factory continued to buy sugar beets and produce sugar. Towards the end of the season, the factory had processed 12,600 tons of beets into 1,001 tons of sugar. One day, a pair of boilers blew up and caused $20,000 worth of damage, and the death of one "fireman". It was believed that one of the boilers had gotten low on

water and the build up of heat caused the metal to weaken. The plant was shut down, and with no insurance, all sugar in the warehouse was sold for 5.5 cents. The plant was amortized to within $15,000 of its original cost. Had the price of sugar been at its price a few years prior, there would have been no financial loss. The cost to manufacture sugar that year was $4.84 per 100 pounds.

By 1880, there were three sugar beet factories in California, but from 1880 to 1889, the Alvarado sugar beet factory was the only one still operating. With pressure from sugar imports from Hawaii, the Alvarado factory was able to mostly make a profit during these years, but the low sugar price and the explosion brought the factory to a halt.

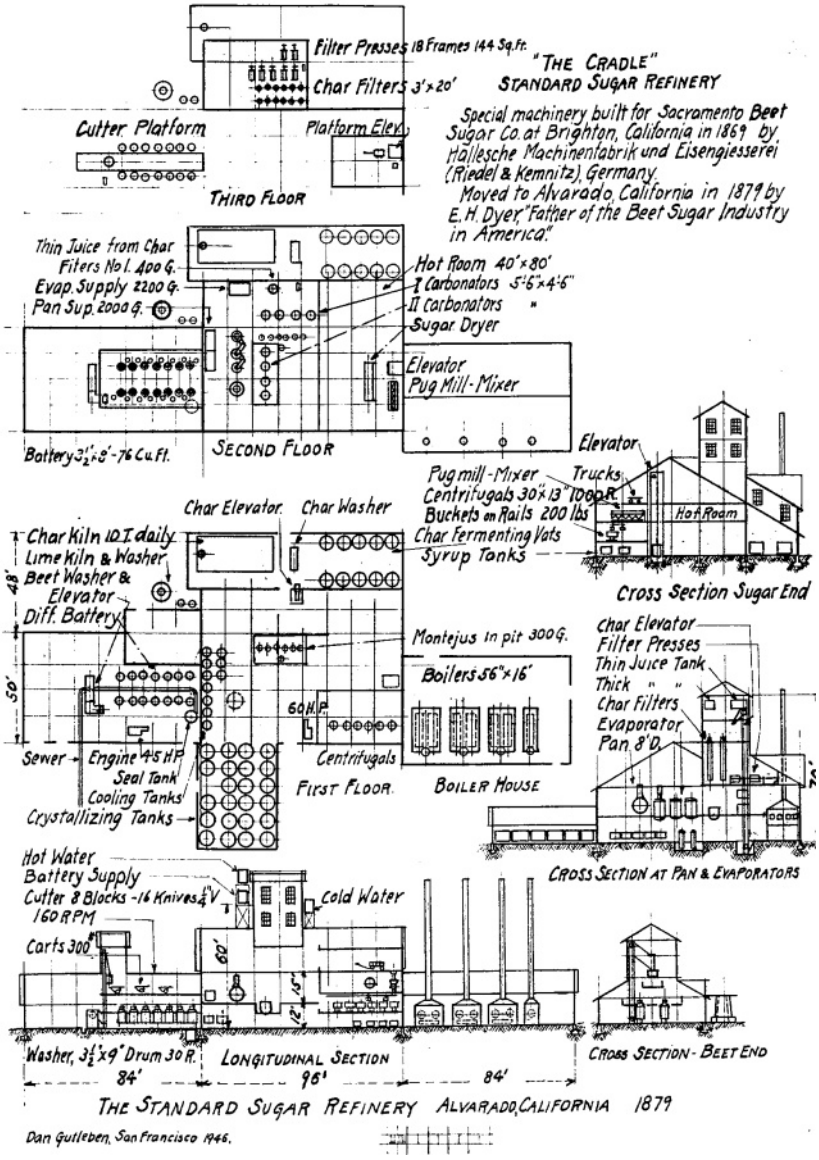
Chapter 6

The Sugar Beet Process (1879)

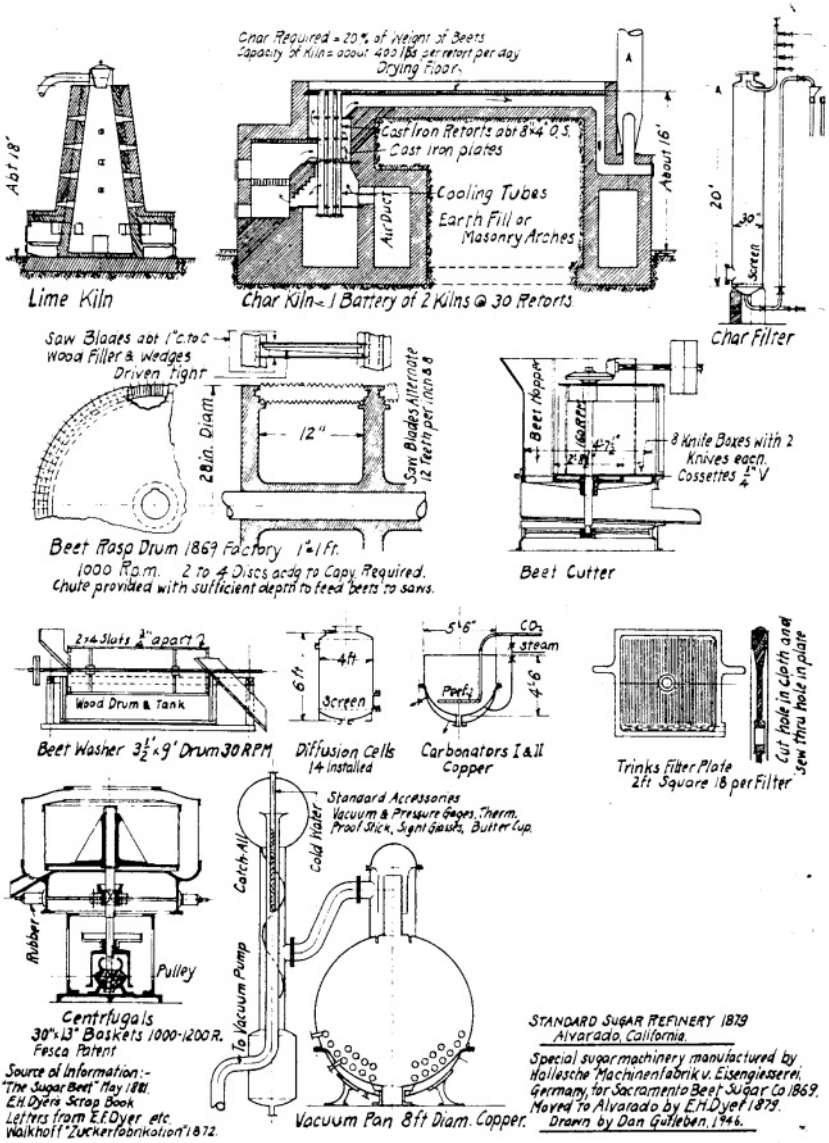
Beets were harvested from fields in the local area, placed in sacks and delivered to the factory. Upon arrival, the beets were weighed and "tared". They were then placed in the Beet House and when it was full, storied in the yards. The beets were sorted in the Beet House by laborers, mostly Chinese, and placed in bushel baskets. They were then moved to the Beet Washer, a wooden drum shaped device where the beets were tumbled and cleaned.

The beets then moved to the elevator which lifted them up to the slicer. The slicer was a number of horizontal disks that sliced the beets into smaller chunks. After the Slicer, the beets were manually moved to the diffusion battery. From the diffusion battery, the beet juice would move to the first carbonizer. In the carbonizer the juice was heated, lime was added, and then had gas run through it. After this process the juice is forced through a filter press. The juice would then pass through a second Carbonizer and another filter press, and then on to the Char House, where the juice would go through charcoal filter for final purification.

At this point the beet juice was pure and had a high sugar content, but it was still thin. The juice was next moved to the Evaporator to remove water and thicken it up. From



Drawing of 1879 factory by Dan Gutleben
(Courtesy Univ. of Calif., Davis)



Drawing of inner workings of the 1879 factory by Dan Gutleben
(Courtesy Univ. of Calif., Davis)

there it would again go through a charcoal filter process and then be stored in large vats.

A final boil would be done in the Vacuum Pan, a large copper globe. From the Vacuum Pan, the sugar would be moved to the Fillhouse, where it would sit for 24 hours. From the Fillhouse, the sugar would move to the Centrifuges where it was spun to remove more water. The final stage was the Dryer, a revolving wooden drum. Once the sugar was crystallized it was ready to be packed and shipped to distributors.

A form of molasses was a waste product of the process and was put in barrels and sold off to vinegar manufacturers. The beet pulp was put in a silo and sold off to local cattlemen and dairymen. For a while, there were cattle sheds near the factory for the cattle to consume the pulp.

A total labor force of 140 men was employed around the factory. In 1897, only 25 of these men were white and the remainder were Chinese.

Chapter 7

Pacific Coast Sugar Company

(1887 - 1888)

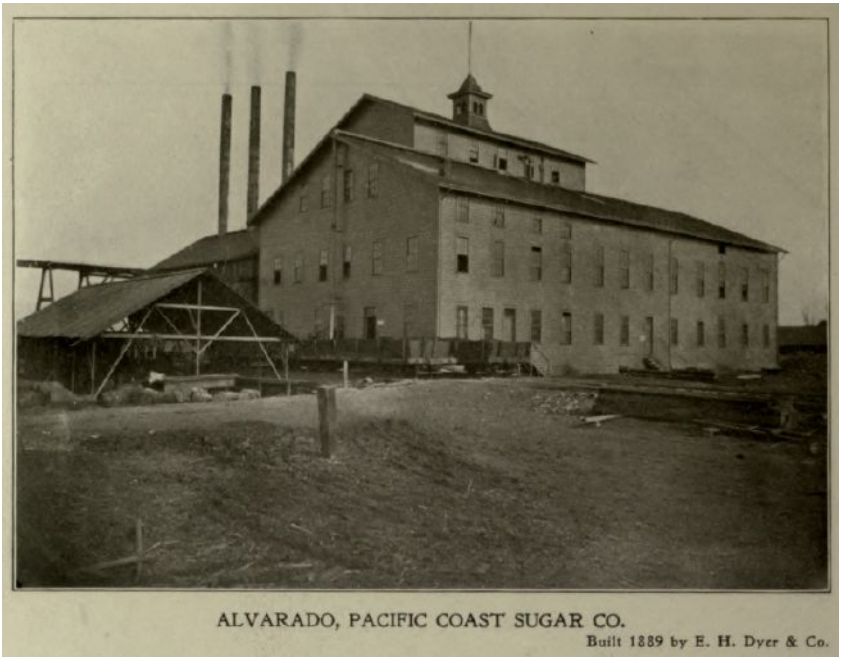
Ebenezer decided that it would be better to build a new larger factory across the street from the old factory, instead of trying to repair the old factory and later expand it. A new company was formed in February 1886 with the following investors; John L. Howard, Henry T. Scott, James Giffin, Oscar T. Sewall, Harvey W. Snow, T. C. Van Ness, E. Higgens, Moses Hopkins, Charles Montgomery, J. F. Fassett, R. R. Thompson, David McKay, John T. Cutting, and Ebenezer. The new company bought the old company in exchange for 5,000 shares of stock in the new company for $25 per share. Ebenezer bought 500 additional share along with E. Higgins, who bought 1,000. It was estimated that the construction would cost $75,000, leaving $50,000 for working capital.

Harold P. and Edward F. worked on the drawing for the new factory. The Brighton diffusion battery was expected to process 200 tons daily, so it was reused. Other equipment from the old factory that could be reused was added to the new factory. New equipment was built in San Francisco and on the East Coast. The Kilby Mfg. Co. of Cleveland and the Robert Deely & Co. of New York also furnished some of the new equipment. A feed lot was built for Samuel Poorman's dairy, who purchased the pulp at $1 per ton.

Construction of the new factory was started on July 27, 1887 and by February 1888, the main building was done and all of the old equipment was installed. The dimension of the main building was 60 x 130 feet by 5 stories, boiler house was 30 x 60 feet, and the fermenting room was 25 x 75 feet. Soon, 1,500 acres were planted with beets, with an expected yield of 20,000 tons. The new factory had twice the capacity of the old but needed only half as many workers.

Many said that neither the old nor the new factory could not be run for a profit. Claus Spreckels was one such believer. Soon after the new factory was built he came to Alvarado to offer Ebenezer a deal, where Claus would help fund the new factory as long as some of the beets were processed into raw sugar, which would be sent to Claus's factory for the final processing into white sugar. Ebenezer declined the offer stating that it was not profitable to divide up the processing.

The 1888-1889 season did not turn a profit. Only 7,000 tons of beets were grown and sugar prices were still low.



Photograph of the 1888 factory

Chapter 8

E.H. Dyer & Company

After some experience building his own sugar beet plant, Ebenezer Dyer decided to form his own company that designed and built sugar beet factories. In 1880, he formed "E.H. Dyer & Company", with Harold P. and Edward F. Dyer as partners. They drafted the design for a 350 ton factory, so they would be ready when an order came in. Edward and Harold P. designed the machinery.

It was not until the fall of 1890 that their first factory order would be placed. A contract was arranged with The Utah Sugar Company to build a plant in Lehi, Utah. Kilby Mfg. Company was contacted to build the equipment, with an advance payment of $40,000. Harold P. was sent to Cleveland to provide detailed drawings and oversee the manufacturing of the equipment.

The main factory building at Lehi was 172 feet by 86 feet and three stories high. An annex contained a steam plant, lime kiln and filters. To the rear of the main factory were six beet sheds with a storage capacity of 14,000 tons, coal bins, four pulp silos, and a millpond. Also on the property was a boarding house that could house 50 workers.

The factory opened on October 15, 1891. It was after midnight before the first day's processing was finished. Ebenezer was on site to assist with the first running of the plant. Many people cameto see the sugar first hand. When the sugar was done, Ebenezer handed samples out to all of those in attendance, including Thomas R. Cutler, general manager. By the next morning twenty tons were sacked and ready for shipment to Salt Lake City by the Union Pacific Railroad.

The first season at the Lehi plant was overseen by the team of Thomas Cutler, manager; Edward F. Dyer, superintendent; Guy S. Dyer, chemist; Hugh T. Dyer and Clarence A. Granger, foremen; George Austin, agriculturist; and M. W. Ingalls, engineer.

In 1896, the company received a contract from W. A. & J. Ross Clark at Los Alamitos, California. Edward F. and F. J. Capatain formed the Bixby Land Company, which furnished a factory site, 1,000 acres of land, and contract for 5,000 acres of beets. After the factory was opened, Edward F. Dyer was appointed superintendent.

In July, 1896, Harold P, his wife and daughter, Jeannette, traveled to Cleveland, Ohio, where the E. H. Dyer and Company had an office. They expected to stay six months, but stayed a year, returning in August, 1897.

When Edward F. Dyer left the superintendent position at the Los Alamitos factory in 1898, to his brother Guy S. Dyer, he left the following list of suggestions:

Rocks - Clean washer often enough to get rid of them, 4 times a day if necessary. It is more profitable to take half an

Advertisements for the E.H. Dyer & Co, which was later renamed to just The Dyer Company when Ebenezer passed away.

hour to clean washer than the same length of time taking rocks out of the cutter.

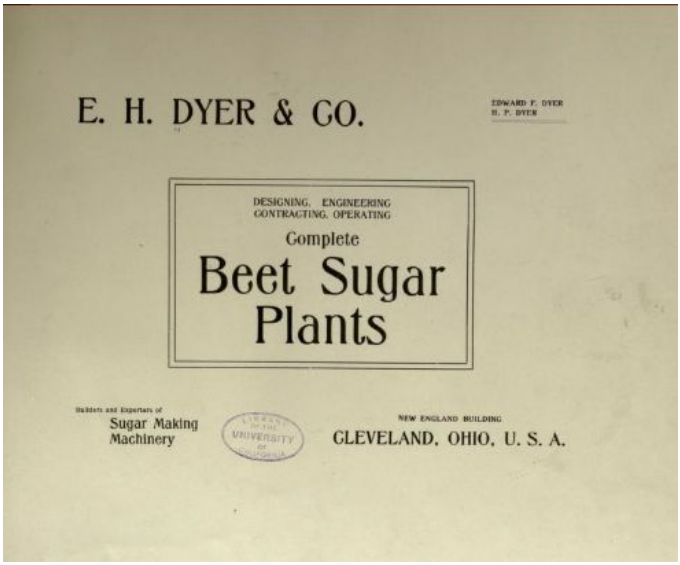
Cutter - Set knives coarse enough to cut the beets fast enough. Have knives sharp and plenty ready on hand for emergencies. Don't try to run them too long even if they are sharp. Good chips and low temperature is the secret of good circulation.

Pulp - Watch pulp and if it has over 3% sugar increase draw right away. Don't fool around expecting it to drop, but go for it hammer and tongs. If the pulp has the habit of jumping up to 1% frequently, you need another battery man.

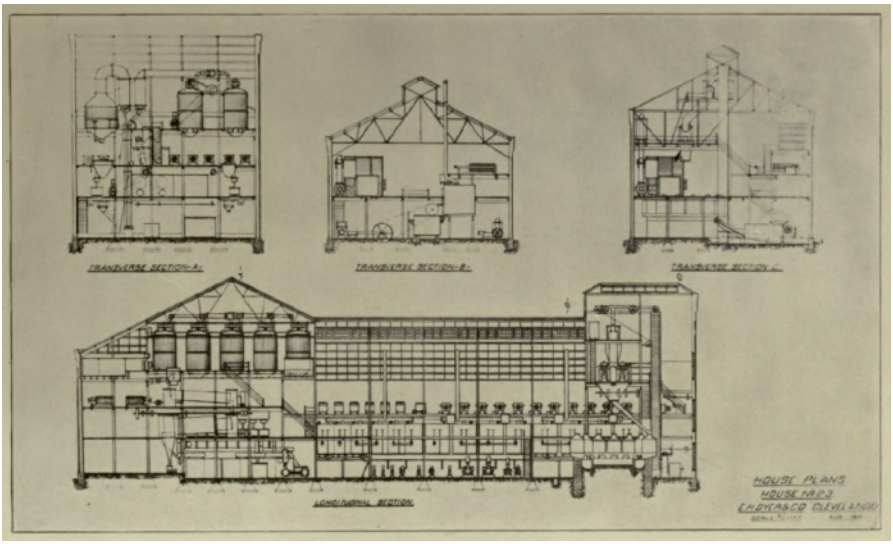
Gas - Look at the gas often. If there is more than a trace of CO_2 the kiln needs more draught. If there is more than 0.5 oxygen there is a leak in suction pipe some where. Don't run gap pumps to death. The fault is not there if there is 1.5 to 2 lbs of pressure on guages.

Carbonators - Carbonate hot 85 to 90 degrees C. and gas to get good precipitate. Excess of alkalinity causes vicious juice. Sometimes too hot juice does this also. Poorly slacked lime, either over or under burned, will do this. When lime milk is granular it has not been properly slacked. Too High Alkalinity is Principal Cause.

Don't try to do too much yourself. Watch things and get after foreman. It is easier to criticize than to do. Also more profitable, as one cannot do near all the work but he can criticize everybody and have time to spare. Get the house so it will run without you and it will run all the better when you are there. A cell of beets at Los Alamitos weighs 2.4 tons. Ought to weight 2.5. I think you will find it to be the case when you check up.



Title page of book by Edward and H.P. Dyer and published by E. H. Dyer & Co.



Drawing of typical factory building from Dyer book

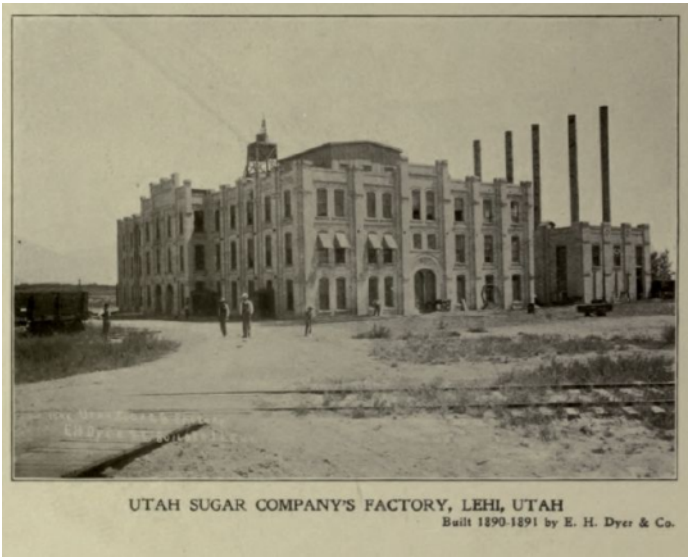
In 1901, the company started building a sugar factory in Greeley, Colorado. Since Edward had experience with running sugar beet factories, when the Greeley Sugar Company was formed on May 21, 1901, Edward was on the board. Also on the board was Harold P. and Clarence Granger, all from Alvarado. Clarence was the manager of the Greeley factory for a number of years. The Greeley Sugar Company dissolved on April 29, 1907 and it factory was taken over by the Great Western Sugar Company.

By 1903, the company had offices in Cleveland, Ohio, at 1009, 1010, and 1011 New England Building. The company advertised as "Constructors of Complete Beet Sugar Plants."

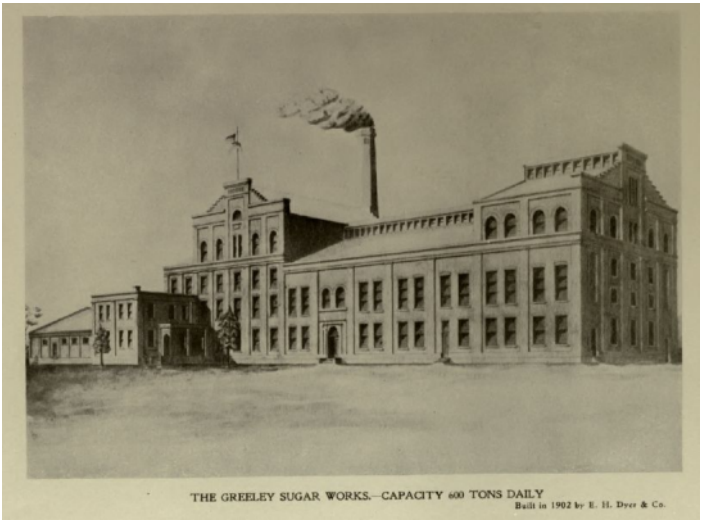
In 1903, the company produced a book called "Designing, engineering, contracting, operating complete beet sugar plants." The book was written by Edward F. and Harold P., with the copyright attributed to Edward F..The book details the factories that the company has built, including photographs and diagrams. The different parts of the factory and process are documented in words and pictures. The book also details the Barbett Process, a patented process for alcohol distillery, which E. H. Dyer and Company owned the American rights to. The last pages of the book were ads for companies that made machinery and other goods for sugar beet factories.

In 1906, Edward testified before the Senate Committee on the Philippines on the production of sugar. When asked if the sugar beet industry could produce enough sugar for the needs of the United States, he replied:

"We can do it easily. The question of whether we can do it would depend on a good many circumstances. I can give



Picture of sugar beet factory in Lehi, Utah, built by E. H. Dyer & Co. in 1890.



Picture of sugar beet factory in Greeley, CO, built by E. H. Dyer & Co. in 1902

New England building on Euclid Ave, in Cleveland, Ohio. E. H. Dyer & Co. had offices in this building in 1903. (Courtesy of the Cleveland Public Library)

you one reason why we are not producing more sugar than we are, and that is because we have never had a period in which we have been absolutely certain that there was not going to be adverse tariff legislation. Whenever we have felt that sense of security and attempted to build new factories we have made some progress, but it did not get far before this thing would loom up before us."

He went on to mention the legislation that affected the American sugar industry, including the a change in a sugar tariff in 1888, and the Dingley Bill of 1897.

Sometime before 1911, Edward F. incorporated the company as The Dyer Company. By1920 he was the sole owner. In 1911 the company address was 2031 Euclid Ave, Cleveland, Ohio.

Chapter 9

The Dyer Family Part Two

On May 17, 1888, a parlor for the Native Sons of the Golden West was formed in Alvarado with Hugh Dyer as one of the charter members. The parlor was named Wisteria and by September 1888 there were 40 members.

In 1889 Harold and Hugh Dyer were members of the "Alvarado Tramping Club", a club for the local young men to go out hunting and camping. Other members were Peter Decoto, Edward Harvey, and Henry May.

In 1890 Ebenezer was appointed by the county supervisor to be on a World's Fair Committee. In 1891 Harold P. Dyer, 32, married Elizabeth "Lizzie" Ralph, 24.

By 1895, Ephraim and his family had moved to Oakland.

The Dyers vacationed at Madrone Springs in Santa Clara county. Newspaper reports of the time mentioned that they visited the resort many times over the years. Madrone Springs is now part of Henry Coe State Park.

In 1896 Ebenezer was worried about the flooding of Alameda Creek and the damage it did to his land, so he petitioned the Alameda County Board of Supervisors if he

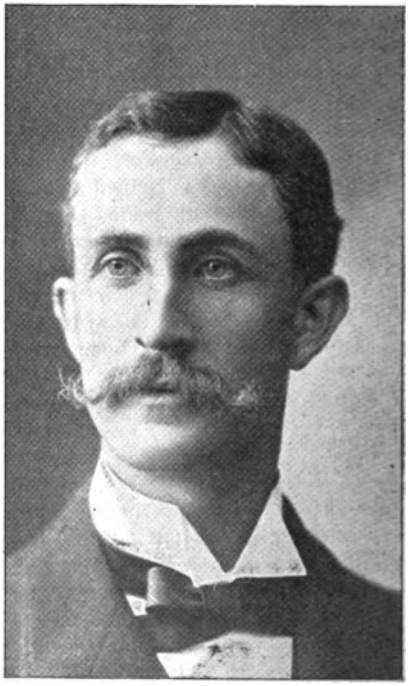
could do something to protect his land from the creek flooding. In February of that year, a Choral Society was formed in Alvarado, and Harold P. Dyer was elected president. In July, Harold P. moved to Cleveland Ohio, on business. Traveling with him was his wife and daughter, Jeanette. Harold P. was back in Alvarado by August, 1897, but by 1899, he was back in Cleveland.

In 1901, Hugh T., was superintendent of Ogden, Utah factory. By 1903, Edward F. was living in Cleveland, Ohio for a number of years. In 1904, Guy S. Dyer also moved to Cleveland. Gus soon married and moved to Colusa, California.

In February, 1904, Nina Dyer entered her horse, "Zaza", into the third annual horse show in Hayward. On October 20, 1904, Ebenezer hosted the wedding of his granddaughter, Gertrude Munson at his home in Alvarado. Gertrude married John G. Hopper of Sonora.

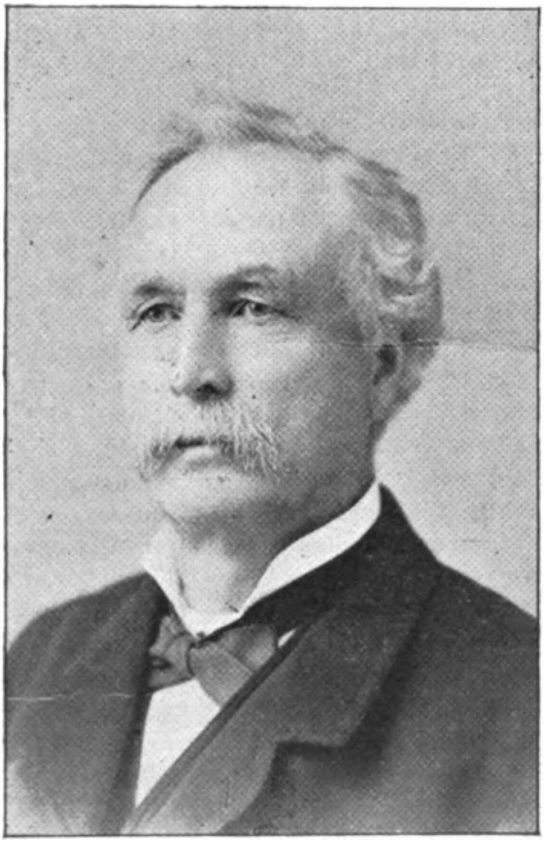
In October, 1906, Miss Ingalls hosted a party for Nina Ingalls Dyer, who was engaged to Frederick L. Washburn of Chicago. The party was held at the home of the Nauerts. The wedding was October 20, in San Francisco at their future home, 94 Carl Street. Attending from Alvarado was Oscarna and Augustus Nauert, Clara Jackson and Helen Crane.

In June 1908 Abie Dyer divorced Hubert Dyer, son of Ebenezer, on the grounds of failure to provide. At the time, Hubert was in a sanitarium due to ill health. Abie Dyer reported that her husband had not provided for her since December, 1906. She was awarded the custody of the two children.



Edward F. Dyer

Edward F. Dyer home at 1834 East 89th Street in Cleveland, Ohio.
(Courtesy of the Cleveland Public Library)



Ebenezer Herrick Dyer later in life

The Dyer brothers, Ebenezer and Ephraim continued to live in Alvarado until their death. Ephraim passed away on October 31, 1883 at the age of 55. In October, 1895, Ephriam's wife and her children formed the Dyer Estate Company and all property from Ephriam's estate was given to the company to manage. When the company was formed, the reason for the company was stated as the "purpose of the corporation is to carry on the business of the undivided estate, consisting of various ranches and other property; and to distribute the proceeds from the sale of the above properties to the stock holders who are the heirs of the estate." The company lasted until 1971, when it was liquidated.

Ebenezer lived longer than his brother and died on July 15, 1910 at the age of 88. Ebenezers' estate was valued at $200,000, to be split between his wife and the children. Ebenezers funeral was held at his home in Alvarado. Pall bearers were fellow Odd Fellow members, W.F. Ingalls, J.M. Ingalls, H.F. Dyer, W.H. Cockefair, H. Elwert and P.S. Lowrie.

On February 6, 1919, Olive Dyer, widow of Ebenezer, passed away. She left behind three children, Hugh T., Gus S., and Nina D.. Edward F. Dyer passed away on May 7, 1923, at his home in Cleveland, at 1834 East 89th Street. The home still stands today. In September, 1928, Harold P. Dyers passed away, while living in Saratoga, California. His widow is the former Elizabeth Ralph.

In May 1935, Ebenezers Victorian home, sitting adjacent to the factory property was destroyed by fire. Apparently the fire started in the attic from a short circuit. The Alvarado Fire Department tried to save the building, but it was not near a fire hydrant and all they could do was form a bucket

brigade. At the time it was occupied by Mr. and Mrs. H. C. Langdon. Holly Sugar had purchased the property and were planning to demolish the building to make room for an expanded plant.

Ebenezer's daughter, Nina, passed away in May, 1956. Harold P.'s widow, Elizabeth, passed away in San Francisco, in October, 1957. She left behind a son and daughter. Her brother, John Ralph, was still living and working in Alvarado at the time.

The Dyer and Ingalls families share a circular plot at the old Cypress Cemetery in Decoto, now part of the Chapel of the Chimes. Individuals are buried around the center of a large central spire.

Obelisk with marker for Ebenezer H. Dyer at the old Cypress Cemetary, Union City, Calif.

Obelisk with marker for Ephraim Dyer at the old Cypress Cemetary, Union City, Calif.

Chapter 10

Alameda Sugar Company

(1889 - 1926)

In 1888 there was a consolidation in a number of sugar refineries in San Francisco. Due to the consolidation, E. C. Burr and John W. Atkinson were looking for a new factory to work in. It was arranged so that Burr and John Howard, the current president of the Pacific Coast Sugar Company, would purchase some company stock from Ebenezer. A new company was formed as the Alameda Sugar Company, retaining John Howard as president. Burr became the general manager and Atkinson was the superintendent.

This new organization allowed local men to pursue other interests. Hubert Dyer went to Hawaii to learn sugar boiling. Merrel Ingalls went to the Northwest and joined a lumbering crew. Ebenezer refurbished the tower in his home as a drafting room and started working with Harold P. and Edward F. on the designs for a standard sugar beet factory. Clarence Granger stayed at the factory working the sugar boiler.

The 1889-90 season saw 9,224 tons of beets processed into 872 tons of raw sugar, which was sold to "Western" for processing.

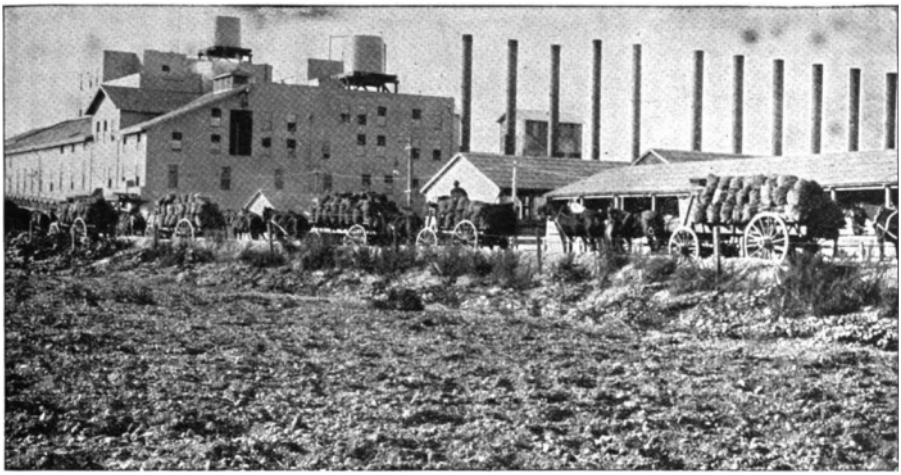
In 1889 the plant was shut down for a year for repairs. In 1890 factory was enlarged enough to handle twice the existing capacity. The new factory increased to twelve boilers. Over 1,500 feet of beet sheds were built. The factory employed 70 men for the 1890 season. The new factory was more efficient that the old. In the old factory a ton of beets produced 134 pounds of sugar. In the new factory, a ton of beets produced 224 pounds.

In the summer of 1890 there was a problem getting the sugar to crystallize. Clarence Granger complained that the sugar would boil, but it stayed like a thick oil. An outside expert was obtained, Emile Brysselbout, and it was determined that the carbonators had to be adjusted, and the sugar was properly crystallized. To celebrate Burr reserved the Riverside Hotel and hosted a dinner for the factory staff.

Also in 1890 a new process was implemented to whiten the sugar. Sulfur dioxide was the initial bleaching agent, with ultra marine blue used as a wash in the centrifuges to remove any remaining color. This replaced the char filters. The one person operating the sulfur station replaced ten men that operated the char house.

In 1890, Ebenezer gave a talk before the Salinas Board of Trade:

"I am also informed that you have secured a site for a factory where a good supply of water can be obtained, which is accessible by rail and wagon. All your conditions are favorable as at Alvarado, except for coal. This will cost you some more than it does us, but you can obtain limestone for less. In manufacturing of sugar from beets it is only necessary that you provide sufficient commercial manner,



Picture of 1889 factory taken in 1899

Piles of stored beets at factory in 1899

with the hearty cooperation of your landowners and farmers, and that they fully realize the great importance and benefit it is to them to have a beet sugar factory located in their immediate vicinity. If you provide the sufficient capital to erect a suitable sugar works, and your farmers will furnish a full supply of good beets, a financial failure is impossible unless the management is wrong."

In October 1890 the McKinley Act took effect. This provided a bounty of two cents per pound of American-produced sugar. The act was to remain in force until 1905, but it was repealed on August 27, 1894.

In an April 1891, during a meeting of the stockholders of the Alameda Sugar Company, the profit for the last year was reported at $27,000, all of which was reinvested in the company. The existence of the factory in Alvarado was put in doubt as the Spring Valley Water Company had diverted the flow of Alameda Creek away from the factory.

In 1892 Henry Vallez joined the staff of the factory as chemist. Schooled in France, he came to California after hearing the recommendation of his brother-in-law, Emile Brysselbout.

By 1892 there were six sugar beet mills in the United States. Alvarado was first, with its second factory built in 1879. Claus Spreckels of Watsonville, California was second and built in 1887. Third was built by Henry T. Oxnard at Grand Island, Nebraska. The fourth was also built by Henry T. Oxnard in Norfolk, Nebraska. The fifth built in Chino, California, and the last was built in Lehi, Utah.

Nephew of E. C. Burr, William Burr, graduated from the University of California at Berkeley with his degree in Chemistry in 1892. He had been visiting the Alvarado factory since 1889, so he was hired as assistant chemist.

In November 1896, Alvarado Sugar Company and the Spring Valley Water Company settled their dispute over rights of the water in Alameda Creek. Details were not documented in news reports, but the agreement was "amicably adjusted and compromised." Later that same month, on the 20th, the factory invited local residents to a dance in honor of the election of McKinley.

Between February and September of 1897, the plant was expanded to double its previous capacity, to about 1,000 tons per 24 hours. The expansion was designed by J.C.H. Stut. E. B. Stone of San Leandro had seventy five of his men working on the factory. Six new boilers were added for a total number of eleven boilers. A new levee, one-and-half-miles long was constructed along Alameda Creek. Total cost of the improvements was $200,000.

In April, 1897, the factory leased 260 acres of the Meek Estate along Mount Eden Road for growing sugar beets. In May 160 acres in Napa Valley were planted in sugar beets for the factory. In total, the factory had 6,000 acres contracted with 420 farmers for growing sugar beets.

After the expansion of the factory, 300 of the "best known businessmen in the state" were invited to visit the factory. A special train of five coaches was contracted to bring in the invited guests. After a tour of the factory, the guests were provided an elegant luncheon on the second floor.

In 1897 those with interests in the Alameda Sugar Company formed the Union Sugar Company in Betteravia, California. J.C.H. Stut was contracted to build a 500-ton factory by 1889. J. W. Atkinson was appointed the plant manager. With Atkinson leaving Alvarado, E. W. Burr became superintendent and James Coffin became plant manager.

Charlie Bell attended the college of Chemistry at the University of California at Berkeley and after graduation he started work at the Alvarado sugar plant. In 1899 he achieved the position of chief chemist. Ebenezer sent him to Ogden, Utah, to receive some instruction from Hugh T. Dyer, Ebenezer's son. This was to prepare Charlie to head up the factory at Le Grande, Oregon, in 1900.

The factory has been getting lime for processing sugar from Santa Cruz. In 1898 an outcropping of lime was found in Hayward on the property of D. Culp. After testing, it was found to be better than the lime from Santa Cruz.

In 1898 sugar beet growers in Pleasanton were unhappy with the Southern Pacific Railroad. Shortages in train engines and freight cars lead to delays in getting the beets to the Alvarado factory.

In December 1899, a barn owned by Ebenezer and adjacent to the factory, caught on fire and threatened the factory buildings. All efforts by the fire fighters was put in to preventing the fire from spreading to the factory buildings. The barn was a total loss at a cost of $1,000.

In 1900 master mechanic Henry Elwert was servicing one of the gas engines used for the water pump. He had a bucket of gasoline to do the servicing. Kerosene lamps were used to light the factory by setting them on the floor at

intervals. The fumes from the gasoline bucket flowed around the factory floor until it hit one of the kerosene lamps. The fumes lit when it hit the lamp, flashing back to the bucket. Quickly the overhead sprinklers kicked in and doused all of the flames. In checking the sprinkler system after they had been set off, he found a plug in the line toward the sugar-end of the plant, that was not removed by the original workmen when the system was installed.

In the summer of 1901 additional beet sheds were added to the factory. Another cattle shed was also added.

In 1904 the Alameda Sugar Company participated in the Worlds Fair in St. Louis. Other companies participating were California Salt Company of Alvarado, Hunts Brothers Cannery and California Packing Company, both of Hayward. The Alameda Sugar Company was awarded a gold medal for its participation.

The factory used a lot of water and found that the aquifer beneath the Alvarado area was a great source of water. A number of wells were located on the factory property. The first wells put into the aquifer, drilled out by the old landings along Alameda Creek, were used by Oakland as a source of water. As Oakland grew, its need for water increased, and Oakland pumped more and more water out of the aquifer. The result was the water table dropping in the Alvarado area, affecting the water supply for the factory. Ebenezer wrote a letter to the Mayor of Oakland to address this issue:

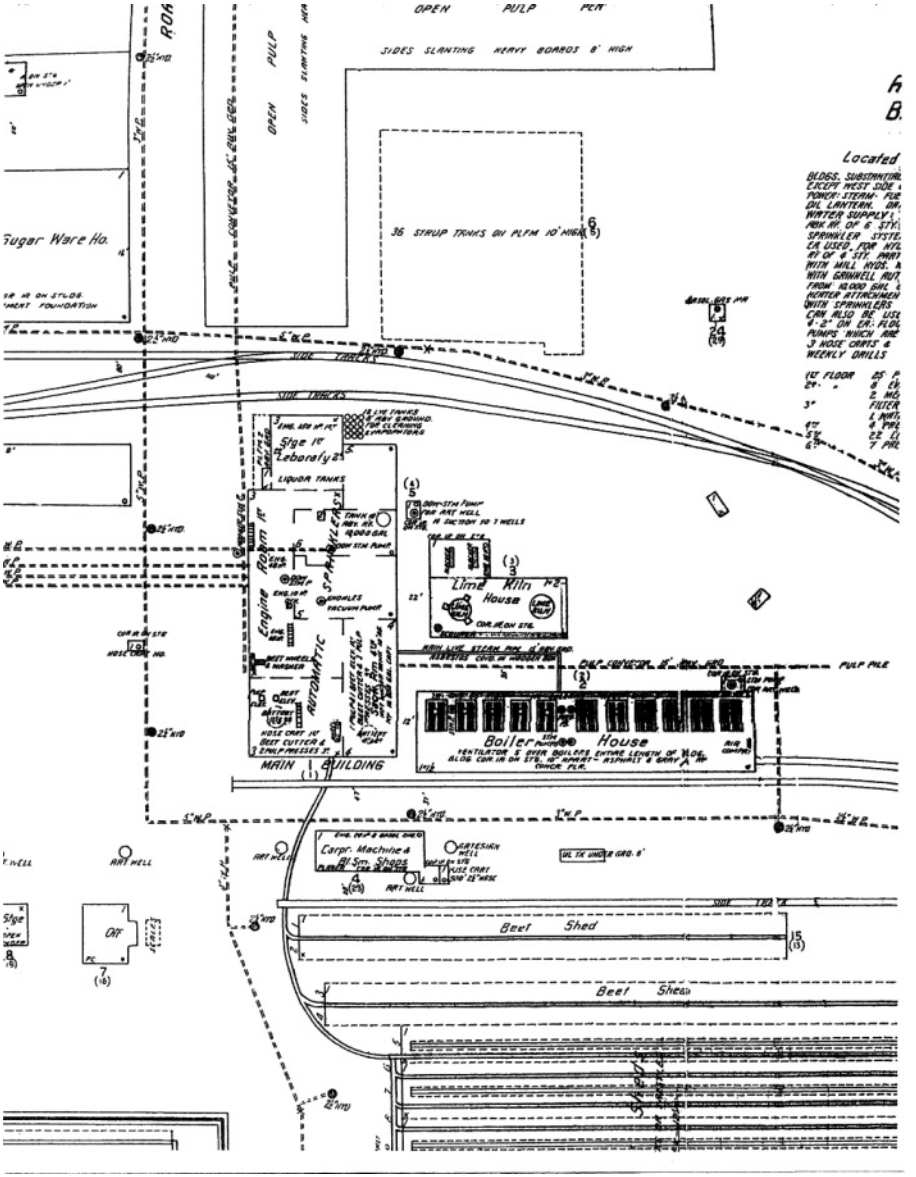
"I see by the report of the City Council's committee on water supply that they have reported in favor of leasing or buying the Contra Costa's water plant. In view of the recent decision of the Supreme Court in Katz-Wolkinshaw

case there seems to no other available water supply for your city. As the pumping plant at Alvarado, which furnished a large potion of your water sold to your city by the Contra Costa Water Company is governed by this same decision and as many of the wells in this vicinity have been rendered almost useless by the operating of the pumping plant, I thought it proper to inform you that it is the intention of the owners of these wells to take legal steps to stop the appropriation of this water by said company."

In the 1906 earthquake the Alameda Sugar Company suffered the most damage in the Alvarado area. Two platforms supporting the molasses tanks broke, causing the tanks to collapse and the release of 1,000,000 pounds of molasses into Alameda Creek. There was also the breakage of a 6-inch cast-iron water pipe.

In 1910, E. W. Burr retired as superintendent and was replaced by Henry Welle from the Betteravia factory. In 1911 plans were made to either build a new sugar beet factory in Meridian on the Sacramento River or to move the Alvarado factory to Meridian. The company secured options on 10,000 acres of land. The transfer was to be completed by 1913. In 1912, the company started raising funds for building a factory at Meridian. Contracts were put in place and 10,000 acres of land was purchased. That year, Congress passed a law that would reduce the amount of tariffs on imported sugar, lowering the expected profits of all American sugar factories. The plan for the Meridian plant was abandoned.

In 1913, the Alameda Sugar Company decided to not grow the sugar beets themselves, but to purchase the beets from California farmers.



Sanborn map showing the layout of the factory in 1908

The factory was closed for two years, from 1913 to 1914 due to the lowering of tariffs on imported sugar, which lowered the retail price of sugar. Henry Welle left Alvarado and went to work for a sugar factory in Crockett, California.

When the plant opened in 1915, J. McCoy Williams was brought in to start the factory. He brought in Charley Fleener as superintendent and W. E. Loranger as plant engineer. Dan Gutleben was selected to serve as consulting engineer. The plant needed some work, which was estimated to cost $100,000, but was done only for $80,000. To keep costs low, they dug up some equipment from the old 1887 plant, such as valves and fittings, that were sent to the shop to be overhauled. Also from the 1887 junk pile, a large amount of asbestos was found, ground up, and recast into pipe coverings.

Williams brought back the tradition that the superintendents house on the factory grounds was the center of social activities. Mrs. Williams, the daughter of James Hamilton of the American Beet Sugar Company, headed up the organization of the social activities. Mrs. Williams organized the ceremony around the lighting of the kilns at the start of the season. A local girl would be selected to apply the match. Mr. Williams would not be plant manager long, as he passed away in 1917.

In 1917 wages for factory workers in California beet sugar mills were reported at $2.20 to $2.45 per day. In October, 1917, John F. Sully was fatally injured at the plant, having an arm and both legs crushed by the machinery.

For the 1918 season, R. E. Jacks was made plant manager and Irving Sinsheimer was made superintendent. After one season, R. S. "Ray" Stewart became superintendent.

In 1918, the Alameda Sugar Company had established its executive office in San Francisco, at 310 Sansome Street. In March, 1920, Alameda Sugar Company purchased a beet sugar factory in Tracy, California, from the Pacific Sugar Corporation.

In December 1921, the six month old son of Frank Goularte from Alvarado passed away. Two doctors confirmed that the milk that Frank was given was poisoned by sugar beet pulp fed to the cows.

In 1923 the average yield of beets per acre was 12.8. The Tracy plant started operations on August 5, with the Alvarado plant following on August 14. The Tracy plant finished its season on November 11, and Alvarado on November 15.

In 1924, the Board of Directors consisted of R. P. Davie, president; P. C. Drescher, first vice president; B. P. Lilienthal, second vice president; Geo. E. Springer, secretary; and board members, H. A. Benning, S. Gabriel, C. E. Schmitt, and Geo. W. Scott.

The next year the following men were on the Board of Directors: P. C. Drescher, president; C. H. Crocker, first vice president, B. P. Lilienthal, second vice president; Geo. E. Springer, secretary; and board members, H. A. Benning, S. Gabriel, C. E. Schmit, & Geo. W. Scott.

In the summer of 1925, an infestation of leaf hopper destroyed most of the beets growing around the Alvarado factory. Since most of the beets were now growing around the factory in Tracy, the Alvarado factory was closed, and any beets in the Alvarado area were shipped to Tracy.

An interesting side note about Alameda Sugar Company: there is a rail stop on the old Southern Pacific Railroad in Pleasanton, California, called ASCO, short for Alameda Sugar COmpany. It was called this because the local area was used by the Alameda Sugar Company to grow beets from 1899 to 1917. The railroad line does not exist anymore and has been turned into the Iron Horse Regional Trail.

Chapter 11

Holly Sugar Company (1926 - 1976)

Holly Sugar of Colorado leased the Alvarado and Tracy factories and owned a large share of Alameda Sugar Company in 1926. In 1927 Holly Sugar purchased both factories and the estate home of Ebenezer, a plot of eight acres sitting next to the sugar factory property.

Late in 1927, Holly Sugar decided that it would be cheaper to re-open the Alvarado factory instead of shipping the beets to Tracy. The Alvarado season was only 25 days in which 11,383 tons of beets were produced into 3,673,500 pounds of sugar.

In 1928 Walter Ziegler came to Alvarado to take over the position of superintendent. Alvarado was intended to be an overflow plant, from beets that could not be processed at Tracy. Local farmers were still interested in growing sugar beets, so contracts were signed and beets kept flowing into the factory.

In June 1932, Holly Sugar installed a siren at the plant to be used as an emergency signal to alert the volunteer fire department. In September, 1932, William Long, 3, crawled out of a parked car, and into an unloaded shed where a

Western Pacific crew were "spotting" beet cars. The child was crushed under the train cars and was killed instantly.

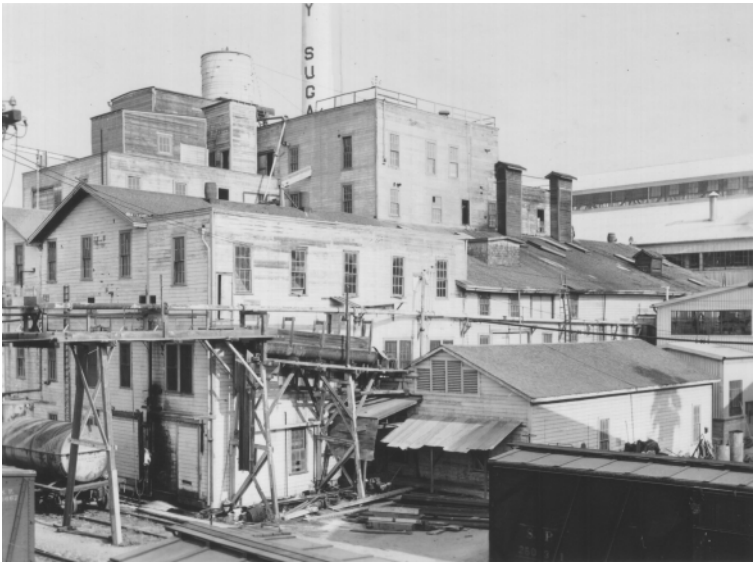
Walter Ziegler was promoted to plant manager, Ben Koontz became superintendent, and Earl Browning was appointed chief chemist, in 1934.

In October 1935, Salvarado Garcia was sentenced to six months in jail for stealing a sack of sugar from the Holly Sugar Company factory. As he tried to make his escape, Garcia was shot in the arm by a night watchman.

In 1935 a three-year, million dollar construction of the plant started. Work first started on the boiler house, which was dismantled and rebuilt with steel and concrete. Over the next few years, different parts of the factory were torn down and rebuilt. In 1937 the last building, the pan house, was completed. It was discovered that the redwood hot room tanks, built in 1870, were still in good condition.

In April 1937, an Employees Cooperative Association was formed, with the approval of company officials, for the purpose of collective bargaining. All employees signed up for membership in the new union. The members of the governing committee were: F. W. Joyce, chairman; George Davis, James F. Patterson, Forrest Wooley, Dan L. Patterson, J. M. Logan, Frank Zeller, Manuel Mello, H. N. Boles, Joe Silva; R. L. Burns, treasurer; and David E. Bourne, secretary.

In September 1938, Chief Electrician Grover Cleveland Wagner was electrocuted while working at the plant. In October, 1942, the first woman to work in the plant was employed. Later, out of 300 workers, 75 were women. In 1943 all process was done at the Tracy plant. Late rains



Old wooden factory being torn down as new metal factory is being built

Demolition of old boiler room (note the smoke stacks)

New metal factory almost finished

Another view of new factory from entrance road

delayed planting the crop and only fifty percent of the normal beet acreage was planted that year, leading to a lower than normal harvest.

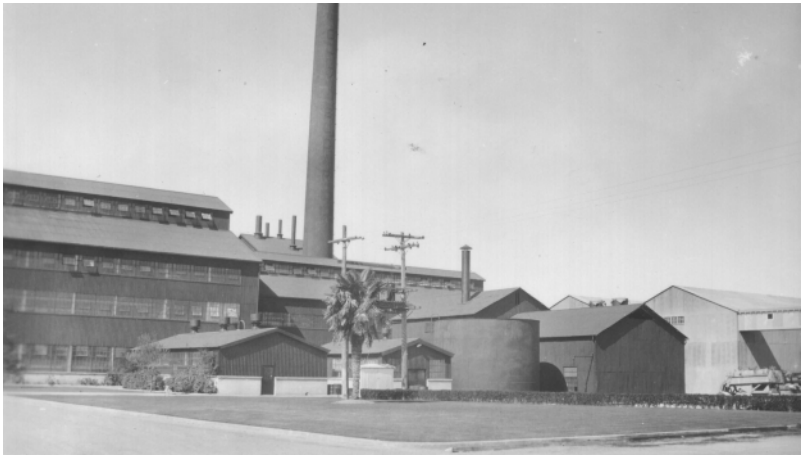
In 1948 Holly Sugar announced that they had plans to halve the water consumption of the plant. The factory's water usage was having an effect on the water table in the local area.

In 1950 the factory had 2,000 2-year old Hereford steers feeding in the cattle lots on sugar beet pulp. Holly Sugar also delivered to sugar beet growers, tons of dried beet pulp for feed and steer manure for fertilizer. In that same year, Alameda County had 5,000 acres dedicated to sugar beets, with Washington Township accounting for 3,588 acres. A flood caused damage to local farmers, including 400 acres of sugar beets, equaling about 9,000 tons of beets.

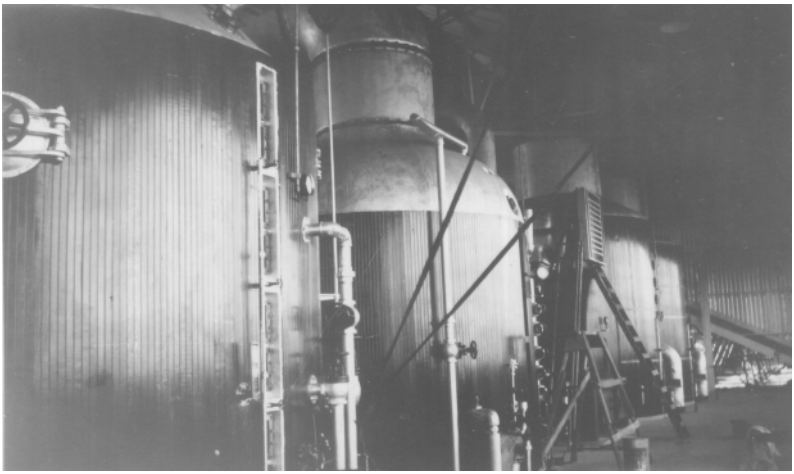
In 1954 Holly Sugar purchased a building in San Mateo to house the company's engineering section, that had been at the Alvarado factory. Other business units moved to the new building including production, agricultural and accounting departments from Stockton, and a western sales office from San Francisco.

In April 1957, the AFL-CIO Sugar Refinery Worker's union started picketing at the Alvarado factory. The union was seeking a shorter workweek, and 10% to 12% hourly wage hike. At the time, the salary rates were from $1.59 to $2.28 per hour. Holly Sugar offered a 4.5 to 9 cent per hour raise and a 44 hour work week, reduced to 40 hours the following year. A number of steel workers from Pacific States Steel joined the picket lines with the sugar workers. The strike was over by the end of May. The agreement reached set the work week to what Holly Sugar was offering and hourly

View of factory from entrance road



Factory in "blackout" colors for World War II



View of boilers installed in new factory

View of factory administration buildings from the newly built smoke stack

wage raises from two to ten cents per hour. A 48-hour workweek remained in effect during seasonal operations.

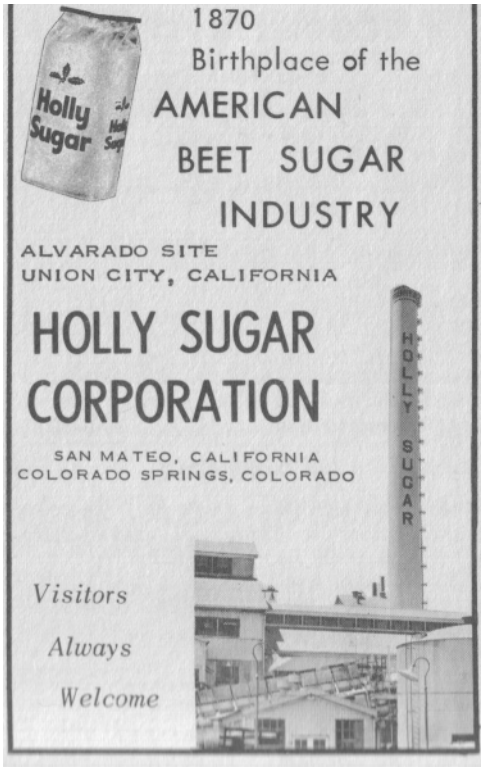
In May 1962, The California State Park Commission, working with Holly Sugar Corporation erected California Historical Marker number 768, honoring the original factory and Ebenezer Dyer. At the dedication ceremony were Mrs. J. A. Silva, past president of the Washington Township Historical Society; Dennis O'Rourke, vice president of Holly Sugar Corporation; Tom Kitayama, mayor of Union City; James White, president of the Union City Chamber of Commerce, and Judson Taylor, principal of James Logan High School.

Site of the Nation's First Successful Beet Sugar Factory

The factory was built in 1870 by E. H. Dyer, "Father of the American Beet Sugar Industry." Located on a corner of Dyer's farm, the small factory began processing sugarbeets on November 15, 1870 and produced 293 tons of sugar during its first operating season. The plant has since been completely rebuilt on the original site.

California Registered Historical
Landmark No. 768
Plaque placed by the California State Park Commission in cooperation with the Holly Sugar Corporation
May 17, 1962

John Ratekin, who also served on the first Union City City Council, retired from Holly Sugar in 1966. In 1968 plant manager was Louis Garcia and in 1970, plant manager was Paul Elton.



Right: Holly Sugar factory advertisement.

Below: Dedication of California State Historical Marker honoring the first factory.

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MONUMENT DEDICATED

DEDICATION of Historical Landmark 768 at Holly Sugar Corp. on Dyer Ave. last week saw more than 100 persons on hand to observe the ceremonies. Left to right are: Mrs. J. A. Silva, past president of the Washington Township Historical Society; Dennis O'Rourke, vice president of Holly Sugar Corp.; Union City Mayor Tom Kitayama, Chamber of Commerce president James White, and Logan High School Principal Judson Taylor.

Chapter 12
Closing the Factory

As Alvarado and Decoto merged into Union City, the area moved from a base of agriculture and manufacturing to homes and warehouses. The number of farms in Southern Alameda County was decreasing, meaning that few acres were being planted for sugar beets. By the late 1960's the area adjacent to the Holly Sugar factory had not changed that much, but the surrounding area was being developed for homes. This was especially true for Hayward and Fremont. In 1950, some 5,500 acres of Alameda County were planted for sugar beets. After that the acreage would decline by 200-400 acres per year. By 1967 the acreage had dwindled down to almost nothing.

In January 1968, Holly Sugar President John B. Bunker announced that the Alvarado plant would be phased out with the functions moving to the Holly Sugar plants in Tracy and Hamilton City. At the announcement, President Bunker said the company was interested in turning the property into an industrial park.

At the time the plant employed 47 full-time employees, with Louis Garcia as plant manager. The final beet harvest season for Alvarado was 1967. The spring harvest brought in a bumper crop of 125,078 tons of sugar beets, with a production of 29.6 million pounds of sugar.

The fall crop was not processed at the plant. The quality of the beets was so poor that Holly management decided it was not profitable. The sugar content of the beets was less than 13 percent.

The final days of the plant were spent processing the liquid sugar stored in tanks into regular sugar. The blue-green tanks contained 1.2 million gallons of liquid sugar.

The impact of the closing was felt through out the community. Besides the loss of jobs, the loss of property tax would cost the city, county, local schools, and special districts some $7,000.

By 1970, when Paul Ecton was plant supervisor, the work to tear the plant down had already started. The plant was still processing the remaining liquid sugar, but the unneeded parts of the plant were torn down.

In January of 1976, Kenneth and Suzie Shattock started an effort to save some buildings of the factory and the towering 200 ft. smoke stack. The Shattocks felt that even though the buildings were only 40-45 years old, they had historic significance. The plant was a major player in the development of Alvarado. The factory and the smoke stack were part of the original seal for the City of Union City. City officials agreed that some parts of the factory were historically significant. In particular the city pointed out the smoke stack, the brick administration building and three woodframe warehouses. Air controllers at Hayward airport, just to the north, had been using the smoke stack as a point of reference for pilots for years.

Going.....

Going.....

By this time only a few employees were still working at the plant. The liquid sugar storage and distribution work had been completed.

John Wilson, the plant manager for both the Alvarado and Tracy factories did not feel that the buildings had any historical significance and stated that the factory buildings "are going to be torn down, whether it's this year or five years from now." The company was interested only in selling the property and felt that any remaining buildings or smoke stack would hamper the sale.

Since 1976 was a bicentennial year, the City of Union City formed a bicentennial committee to make plans for local activities for the bicentennial. The committee made plans for a local history book (eventually published in 1978) and local celebrations. The Shattocks were appointed to the committee and the city council directed the committee to study the issue of what to do with the factory.

In February 1976, the city announced that Holly Sugar had submitted a demolition permit for the factory. Kenneth Shattock continued to work on getting the factory declared a historical landmark, making the process for demolition change from just requiring a permit to doing a full environmental impact statement. Shattock took the matter before the Alameda County Bicentennial Commission, who endorsed the effort to preserve the factory buildings and smoke stack.

City Manager William Zaner advised to the City Council to not get involved in the dispute between the preservationists and Holly Sugar. "What I hear developing is an adversary relationship with Holly Sugar, and I'm not sure that's the kind of thing we want to foster", Zaner said.

View of demolished smoke stack from its base

A. C. Parker, director of Holly Corporate Communications, stated in a letter that historical significance was in the owning of the land that the first sugar beet factory was built and not in the remaining buildings that were only 40-45 years old. He even said that the buildings detract from the history and heritage of the property.

In April, the Concerned Citizens of Union City brought up the idea of using the remaining buildings of the factory to create a shopping center, similar to the former Jack London Village in Oakland. The city liked the idea but was not interested in assisting in the funding of such a shopping center. The development was possible as the City Director for Building and Zoning, Jack Petri, said that the buildings were structurally sound. Holly would delay its actions for 90 days to give the committee a chance to see if such a shopping center was possible.

In December, the City Council had the final say in the matter. They determined that the factory buildings and the smoke stack lacked cultural and historical significance, thereby not requiring Holly to prepare an environmental impact statement.

Holly gave a presentation at the City Council meeting expressing their views. Corporate council, John Cooper stated that the history of the Alvarado plant "is something in our minds and is not something that depends on monuments." He also stated that "not a stick of the original factory remains today."

The Shattock's had one last try at saving the factory. Suzie Shattock talked about historical battlefields on the East Coast that have not been developed because an important

battle had taken place there, and hoped that something similar could be one with the factory property.

The final vote came down to 3 for, 1 against, and 1 absent. Councilwoman Susan Boyle was the sole vote against. Councilman Marshal Stone was absent but had expressed an interest in having an environmental impact statement completed. Councilmen Manual Garcia and Dick Oliver and Mayor Tom Kitiyama voted not to designate the factory as historically significant. They were worried about who would maintain the smoke stack and who would be liable if the smoke stack ever fell over.

On February 7, 1977 the smoke stack came down. While waiting for the event to take place, a local reporter talked with Franklyn Lenz, who used to work at the plant. Frank said, "I used to paint that thing - swinging around in a bosun's chair anchored at the top. I was the only one who'd take on the job. Nobody else wanted to do it. That stack has a three foot sway at the top. There are a lot of memories on that thing for me." Suzie Shattock was also at the demolition said "Those red lights on the top were my beacon. When I was coming down the freeway late at night, I'd look into the sky and see those lights and know that I was getting close to home."

With a little bit of dynamite in the right location, the stack was felled like a large tree. At one minute before the blast charge would go, an air-horn was sounded. Everyone standing around the smoke stack stopped talking and all eyes were riveted on the smoke stack. After that one minute of silence, a high pitch crack was heard. The charge had been fired and gravity would do its job and bring the tall structure down. One witness described it this way; "Suddenly there was a bang. The towering structure

remained upright for a fraction of a second following the sound. Then slowly, but rapidly gathering speed, it began to topple." "It shimmied a little - almost rippled - on the way down, giving me the momentary sensation that I was viewing an underwater scene."

Chapter 13

The Factory Property Today

The 42 acres of land that the factory resided on have been developed into homes. The entrance road to the factory is now Ratekin Drive, named after John Ratekin, former plant supervisor and city councilmember. The California State Historical Marker for the factory was moved and sits at the corner of Dyer Avevue and Ratekin Drive.

A small area at the corner of Dyer Avenue and Alvarado-Niles Road is called Sugar Mill Landing, as it sits next to Alameda Creek and just south of where the factory was. In 2007, the Flight 93 Memorial was installed in this park.

The railroad siding that served the factory still remains, serving just one customer, a cement distribution facility. In time it too may go the way of the factory.

Alameda Creek that served as the first method of shipping sugar from the factory to the customers in San Francisco, is now only a small trickle passing where the plant used to be. The major part of the creek's flow is running through a flood control channel south of Union City. The original route for the creek is so shallow and silted over that only toy boats can navigate it. Only a small amount of water from local drainage goes through the old channel.

California State Historical Marker #768

Appendix I

Alvarado Factories

1870 California Sugar Beet Manufacturing Company
50 ton capacity
Built by E. H. Dyer. Disassembled in 1874 and equipment moved to Soquel, California.

1879 Standard Sugar Refinery
80 ton capacity
Built by E. H. Dyer using the 1870 building and equipment from Brighton, California. Destroyed in 1887 by a boiler explosion.

1888 Pacific Coast Sugar Company
160 to 300 ton capacity
Built by E. H. Dyer with son, E. F., and nephew, H. P.. Built across road from previous plant, using the same equipment, but a new building. Enlarged in 1891 to 300 ton capacity.

1897 Alameda Sugar Company
300 to 900 ton capacity
Discontinued charcoal filtering. Doubled to 600 tons in 1897. Increased again to 900 tons in 1924.

1926 Alameda Sugar Company

1400 ton capacity

Plant purchased by Holly Sugar Corporation. Added equipment from other plants to a capacity of 1400 tons from 1927 to 1934.

1935 Holly Sugar Company

1700 ton capacity

New metal factory built by Holly Sugar from 1935-1937. Closed in 1976.

Appendix II

Alvarado Factory Sugar Production

Year	Tons	Year	Tons
1870	5,870	1896	107,809
1871	8,960	1897	114,174
1872	12,580	1898	72,682
1873	16,800	1899	74,091
1874- 1878	Shutdown	1900	82,106
1879	12,319	1901	146,981
1880	11,849	1902	128,481
1881	14,158	1903	107,154
1882	10,985	1904	94,822
1883	10,278	1905	98,169
1884	21,672	1906	120,985
1885	13,431	1907	84,800
1886	16,882	1908	113,223
1887	Closed	1909	159,832
1888	Closed	1910	124,824
1889	20,661	1911	199,919
1890	30,452	1912	131,057
1891	21,008	1913	96,483
1892	42,402	1914	Closed
1893	47,031	1915	N/A
1894	72,777	1916	185,307
1895	58,603	1917	153,120

Year	Tons	Year	Tons
1918	98,025	1950	1,089,227
1919	162,555	1951	526,503
1920	193,715	1952	505,086
1921	241,040	1953	948,509
1922	90,081	1954	729,695
1923	130,850		
1924	241,191		
1925	Closed		
1926	Closed		
1927	36,735		
1928	160,520		
1929	246,460		
1930	287,450		
1931	407,820		
1932	382,565		
1933	528,260		
1934	640,725		
1935	454,310		
1936	418,960		
1937	384,740		
1938	633,745		
1939	698,648		
1940	751,395		
1941	451,572		
1942	526,661		
1943	Closed		
1944	Closed		
1945	271,961		
1946	747,777		
1947	801,583		
1948	626,751		
1949	652,382		

Appendix III

List of Sugar Beet Factories Built by E.H. Dyer & Company

1892	Lehi, UT	Utah Sugar Co.	350 tons
1897	Los Alamitos, CA	Los Alamitos Sugar Co.	350 tons
1898	Ogden, UT	Amalgamated Sugar Co.	350 tons
1899	Grand Junction, CO	Western Sugar & Land Co.	350 tons
1899	Benton Harbor, MI	Wolverine Sugar Co.	350 tons
1899	Holland, MI	Holland Sugar Co.	350 tons
1899	Springville, UT	Utah Sugar Co.	400 tons
1900	Lehi, UT	Utah Sugar Co.	1000 tons
1900	Bingham Jnctn, UT	Utah Sugar Co.	400 tons
1900	Fremont, OH	Continental Sugar Co.	350 tons
1901	Logan, UT	Amalgamated Sugar Co.	350 tons
1901	Provo, UT	Utah Sugar Co.	300 tons
1902	Greeley, CO	Great Western Sugar Co.	600 tons
1902	Berlin, Ontario	Ontario Sugar Co.	800 tons
1902	Raymond, Alberta	Knight Sugar Co.	350 tons
1903	Garland, UT	Utah Sugar Co.	600 tons
1903	Idaho Falls, UT	Idaho Sugar Co.	600 tons
1903	St. Louis, MI	St. Louis Sugar Co.	350 tons
1904	Sugar, ID	Idaho Sugar Co.	700 tons
1904	Parker, ID	Idaho Sugar Co.	600 tons
1905	Lewiston, UT	Lewiston Sugar Co.	700 tons
1905	Blissfield, MI	Continental Sugar Co.	700 tons
1905	Nampa, ID	Western Idaho Sugar Co.	700 tons
1906	Brush, CO	Great Western Sugar Co.	700 tons

1907	Las Animas, CO	American Beet Sugar Co.	700 tons
1911	Taihoku, Taiwan	Cane-Taihuku Sugar Co.	
1911	Elsinore, UT	Utah-Idaho Sugar Co.	500 tons
1911	Monte Vista, CO	San Luis Va. Beet Sugar Co.	500 tons
1911	Findlay, OH	Continental Sugar Co.	600 tons
1912	Santa Ana, CA	Santa Ana Coop. Sugar Co.	600 tons
1913	Payson, UT	Utah-Idaho Sugar Co.	500 tons
1915	Layton, UT	Layton Sugar Co.	500 tons
1916	West Jordan, UT	Utah-Idaho Sugar Co.	500 tons
1916	Spanish Fork, UT	Utah-Idaho Sugar Co.	750 tons
1916	Lovell, WY	Great Western Sugar Co.	700 tons
1916	Brigham City, UT	Utah-Idaho Sugar Co.	500 tons
1916	Grants Pass, OR	Oregon-Utah Sugar Co.	500 tons
1916	Grand Island, NE	American Beet Sugar Co.	500 tons
1917	Smithfield, UT	Amalgamated Sugar Co.	700 tons
1917	Shelley, ID	Utah-Idaho Sugar Co.	750 tons
1917	Missoula, MT	Great Western Sugar Co.	1000 tons
1917	Yakima, WA	Utah-Idaho Sugar Co.	750 tons
1917	Tracy, CA	Pacific Sugar Co.	500 tons
1917	Manteca, CA	Spreckels Sugar Co.	1200 tons
1918	Springville, UT	Spring.-Map. Sugar Co.	350 tons
1920	Belmond, IA	Iowa Valley Sugar Co.	600 tons
1920	Obihiro, Japan	Hokkaido Sugar Co.	600 tons
1921	La Lima, Honduras	Cuyamel Fruit Co.	1500 tons
1922	Shimizu, Japan	Hokkaido Sugar Co.	600 tons
1922	San Cristobal, Mex.		1500 tons
1923	Manchuria, China	Mosasses Steffen Plant	50 tons
1924	Shanghai, China	Refinery-Mai Ji Sugar Co.	100 tons
1924	Maceo, Brazil	Leao Irmaos	1250 tons
1925	San Luis, St. Dom.	Santiago Mehelina	1000 tons
1926	Peterborough, Eng.	Central Sugar Co.	700 tons
1927	Bardney, Eng.	Lincolnshire Sugar Co.	1000 tons
1927	Shelby, Eng.	Yorkshire Sugar Co.	700 tons
1928	Brigg, Eng.	2nd Lincolnshire Sugar Co.	700 tons
1930	St. Ther., Brazil	Jose Queires & Cia.	1250 tons

Appendix IV

Dyer Family Genealogy

Ebenezer Herrick Dyer
Born: April 17, 1822 - Sullivan, Hancock County, Maine
Died: July 15, 1910 - Alvarado, California

Marriage - June 15, 1850 in Providence, RI.
Marrion Wallace Ingalls
Born: January 13, 1835
Died: February 13, 1863
Children:
Abitha Marion Dyer
Born: April 21, 1857
Died: December 29, 1928
Ellen Frances Dyer
Born: December 23, 1855
Died: January 17, 1923
Edward Franklin Dyer
Born: July 22, 1858
Died: May 7, 1923

Marriage - After 1863 in Alvarado, California
Olive Sophronia Ingalls
Born: January 3, 1842
Died: February 6, 1919
Children:
Hugh Thomas Dyer

Born: May 8, 1868
Died: October 21, 1948

Guy Sawyer Dyer
Born: May 8, 1868
Died: March 27, 1921

Nina Dyer
Born: December 29, 1878
Died: May 1956

Ehpriam H. Dyer

Born: March 2, 1828 - Sullivan, Hancock County, Maine
Died: October 31, 1883 - Alvarado, California

Marriage - June 2, 1859
Ellen Frances Ingalls
Born: August 29, 1839
Died: February 26, 1920
Children:

Harold Parker Dyer
Born: May 29, 1860
Died: September 2, 1928

Henry Sawyer Dyer
Born: August 19, 1864
Died: March 29, 1936

Hubert Paul Dyer
Born: December 23, 1867
Died: May 23, 1915

Edith Dyer
Born: March 13, 1870

Ernest Dyer
Born: September 4, 1872
Died: February 4, 1939

Ephraim Ingalls Dyer
Born: July 18, 1881
Died: 1961

Appendix V

Known Factory Supervisors

1890	J. W. Atkinson	Superintendent
1896	Emil Willard Burr	Manager
	J. W. Atkinson	Superintendent
1899	E. W. Burr	Superintendent
1911	E. W. Burr	Superintendent (resigns)
	J. W. Atkinson	Superintendent
1916	J. McCoy Williams	Superintendent
1918	Ray S. Stewart	Superintendent
1921	H. M. Springer	Superintendent
1930	William H. Ziegler	Superintendent
1938	Ben Koontz	Superintendent
1947	Earl Browning	Superintendent
1948	John Ratekin	Superintendent
1968	Louis Garcia	Manager
1970	Paul Elton	Manager
1976	John Wilson	Manager

Appendix VI

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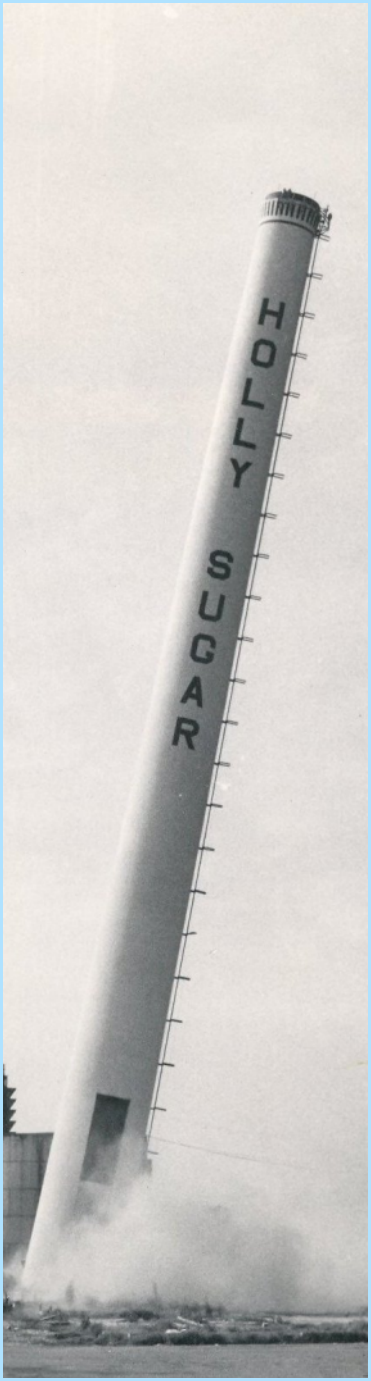

Alvarado Sugar Beet Factory

For over 100 years a sugar beet factory existed in Alvarado, California. First as a small plant just large enough to produce sugar, then as a larger factory that was expanded to increase production, to finally a large all-metal factory with an iconic smoke stack. The factory was founded by Ebenezer H. Dyer and his family built and ran the plant for a number of years. From this, E. H. Dyer created a business of building sugar beet factories around the world.

About the Author

Timothy Swenson is an historian specializing in Union City history. He is a board member of the Museum of Local History and Washington Township Historical Society. He is a former board member for the Union City Historical Museum. He has been researching and writing on local history since 2000.

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