The Chatsworth Park Quarry

The Chatsworth Park Quarry

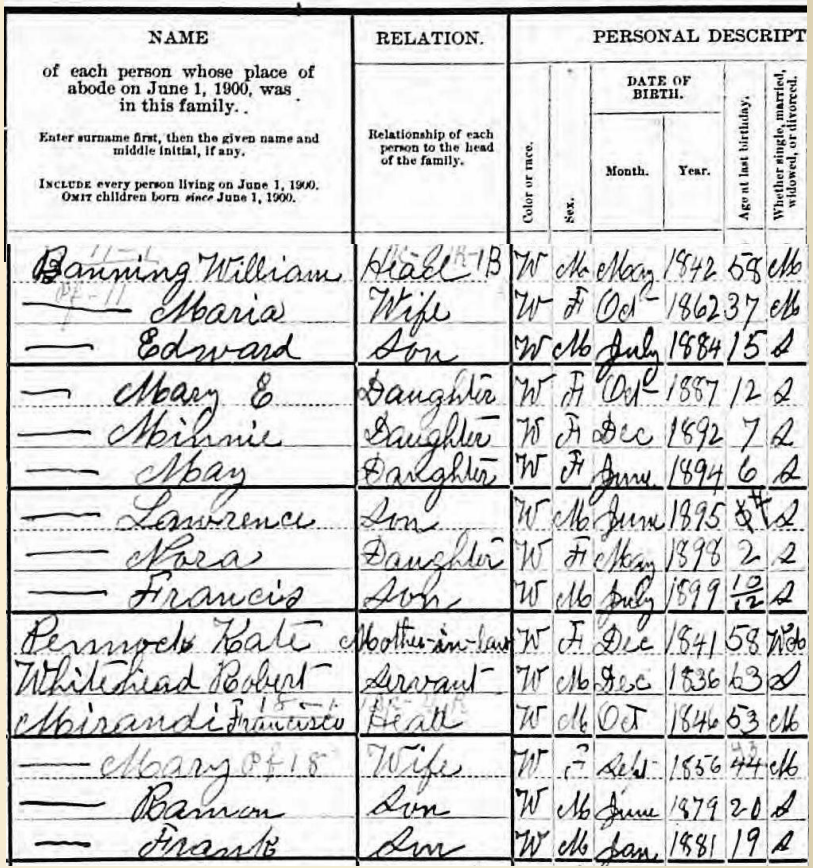
- On January 21st, David Coscia, Ann and I took a hike up into the Quarry.
- Dave is a railroad historian, author of two books, the most recent including a detailed discussion of the spur to Bannon's Quarry, including a new map of the spur.
- He shared some photographs he had taken at the quarry, and we walked around talking railroad theory, and how the tracks could have been oriented to load up to 50 flatcars of riprap a day.
- We also talked about the "cut" visible on the Andora trail, he was 99% certain that it had been graded to have a railroad track in it.
- I then started studying a 1928 aerial of the quarry and cemetery, and we came to the conclusions shown in this presentation.

Background

- In 1891 in Chatsworth, 49 year old quarryman William Bannon and family acquire the 1861 Stagecoach Trail Swing Station Adobe (in today's Santa Susana Pass State Historic Park).

The June 1900 Census had the Bannon Family (incorrectly spelled "Banning") as neighbors to the Miranda family.

5 of their seven children at that time were born at the Adobe.



NAME of each person whose place of abode on June 1, 1900, was in this family. Enter surname first, then the given name and middle initial, if any. INCLUDE every person living on June 1, 1900. OMIT children born since June 1, 1900.	RELATION. Relationship of each person to the head of the family.	PERSONAL DESCRIPT					
		Color or race.	Sex.	DATE OF BIRTH. Month.	DATE OF BIRTH. Year.	Age at last birthday.	Whether single, married, widowed, or divorced.
Banning William	Head	W	M	May	1842	58	M
Maria	Wife	W	F	Oct	1862	37	M
Edward	Son	W	M	July	1884	15	S
Mary E	Daughter	W	F	Oct	1887	12	S
Minnie	Daughter	W	F	Dec	1892	7	S
May	Daughter	W	F	June	1894	6	S
Lawrence	Son	W	M	June	1895	4	S
Nora	Daughter	W	F	May	1898	2	S
Francis	Son	W	M	July	1899	10/12	S
Pennock Kate	Mother-in-law	W	F	Dec	1841	58	W
Whitehead Robert	Servant	W	M	Dec	1836	63	S
Miranda Francisco	Head	W	M	Oct	1846	53	M
Mary	Wife	W	F	Sept	1856	44	M
Ramon	Son	W	M	June	1879	20	S
Frank	Son	W	M	Jan	1881	19	S

Topics to be covered

- By 1901 the Bannon family had homesteaded 160 acres, and purchased an additional 40 acres that same year. These 200 acres have four stories to tell:
  - **De la Ossa Adobe**: The 1861 Stagecoach Trail Swing Station, La Cuesta, run by the De la Ossas from Encino (before Bannon)
  - **Dimension Stone**: William Bannon's contributions to Chatsworth and Southern California via Chatsworth Park Quarry dimension stone and road building projects 1892 to 1901.
  - **Breakwater Riprap**: The Chatsworth Park Quarry supplying millions of tons of riprap sandstone to form the core of the San Pedro Breakwater (after Bannon sells his ranch and quarry in 1901 to the California Construction Company)
  - **Bannon returns**: A final chapter, the Bannon family returns to Chatsworth in 1906, and live in the Swing Station Adobe from 1912 to 1917.

Resources used

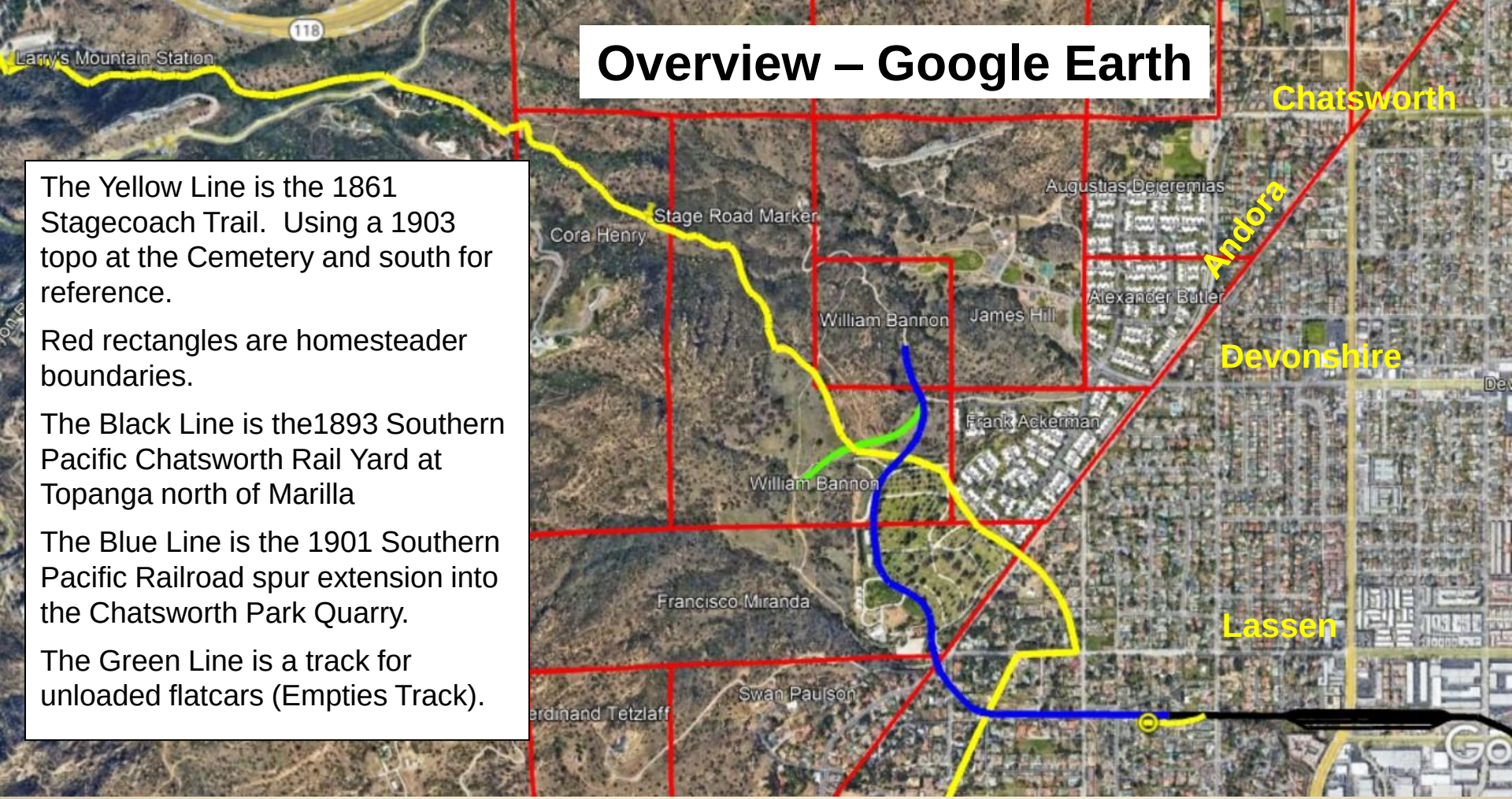
- This presentation is well documented, and has evolved, as follows:
  - A 1974 interview with William's son, Joe Bannon, by Janice Hinkston, founder of the SSMPA and FPSSM
  - Southern Pacific Railroad photographs of Quarry operations from Railroad Historian Bruce Petty.
  - The 2007 Santa Susana Pass State Historic Park Cultural Resources Inventory Historic Review by Alexander Bevil
  - Additional photographs from Chatsworth resident Bruz Bryant (Graves/Johnson family)
  - Recent facebook photographs from Rob Roche
  - A 2018 book "Southern Pacific in the San Fernando Valley 1876-1996" by David Coscia.
- As research tools have improved (on-line newspapers, historic aerials), we have been able to clarify some of the points and photographs in this story.

Overview of maps
Of the 1901
Quarry Railroad

Before we get into the story, we want to explain where the Quarry was, and how the railroad was used to ship sandstone riprap to the San Pedro Breakwater.

Send an email to chatsworthhistory.com if you would like the Google Earth .kmz files for the Quarry.

Overview – Google Earth



The Yellow Line is the 1861 Stagecoach Trail. Using a 1903 topo at the Cemetery and south for reference.

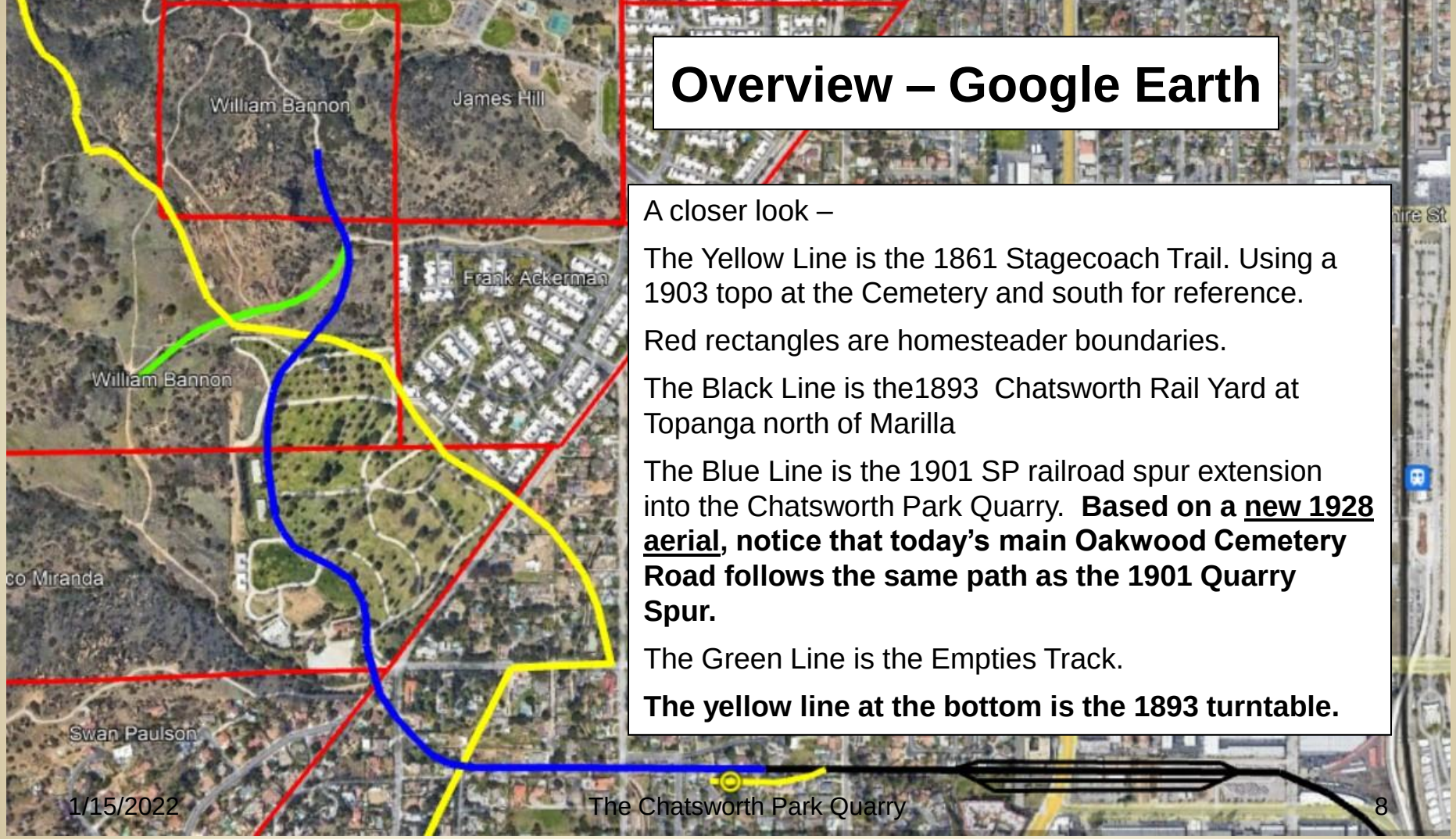
Red rectangles are homesteader boundaries.

The Black Line is the1893 Southern Pacific Chatsworth Rail Yard at Topanga north of Marilla

The Blue Line is the 1901 Southern Pacific Railroad spur extension into the Chatsworth Park Quarry.

The Green Line is a track for unloaded flatcars (Empties Track).

Overview – Google Earth



A closer look –

The Yellow Line is the 1861 Stagecoach Trail. Using a 1903 topo at the Cemetery and south for reference.

Red rectangles are homesteader boundaries.

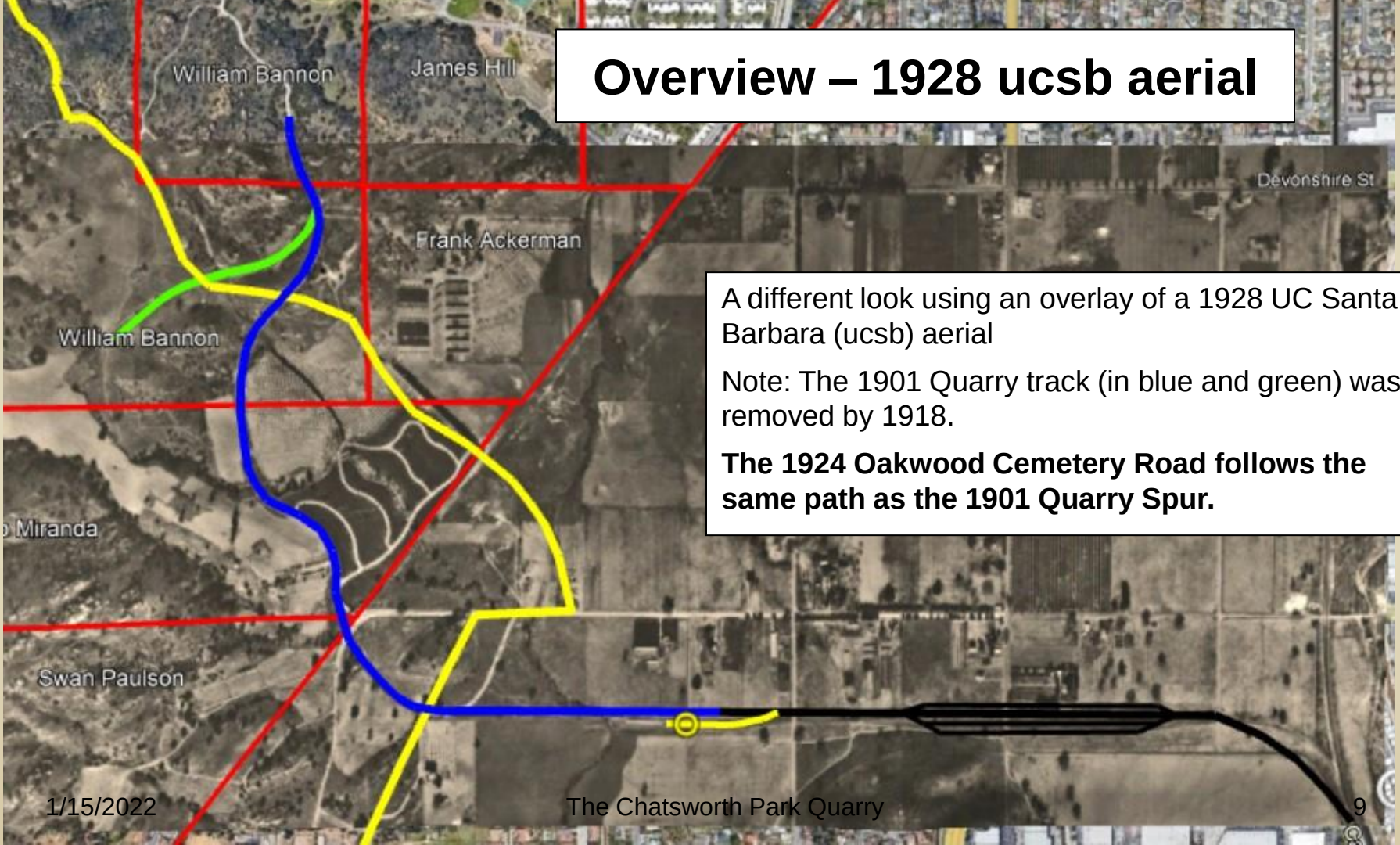
The Black Line is the1893 Chatsworth Rail Yard at Topanga north of Marilla

The Blue Line is the 1901 SP railroad spur extension into the Chatsworth Park Quarry. **Based on a <u>new 1928 aerial</u>, notice that today's main Oakwood Cemetery Road follows the same path as the 1901 Quarry Spur.**

The Green Line is the Empties Track.

The yellow line at the bottom is the 1893 turntable.

Overview – 1928 ucsb aerial

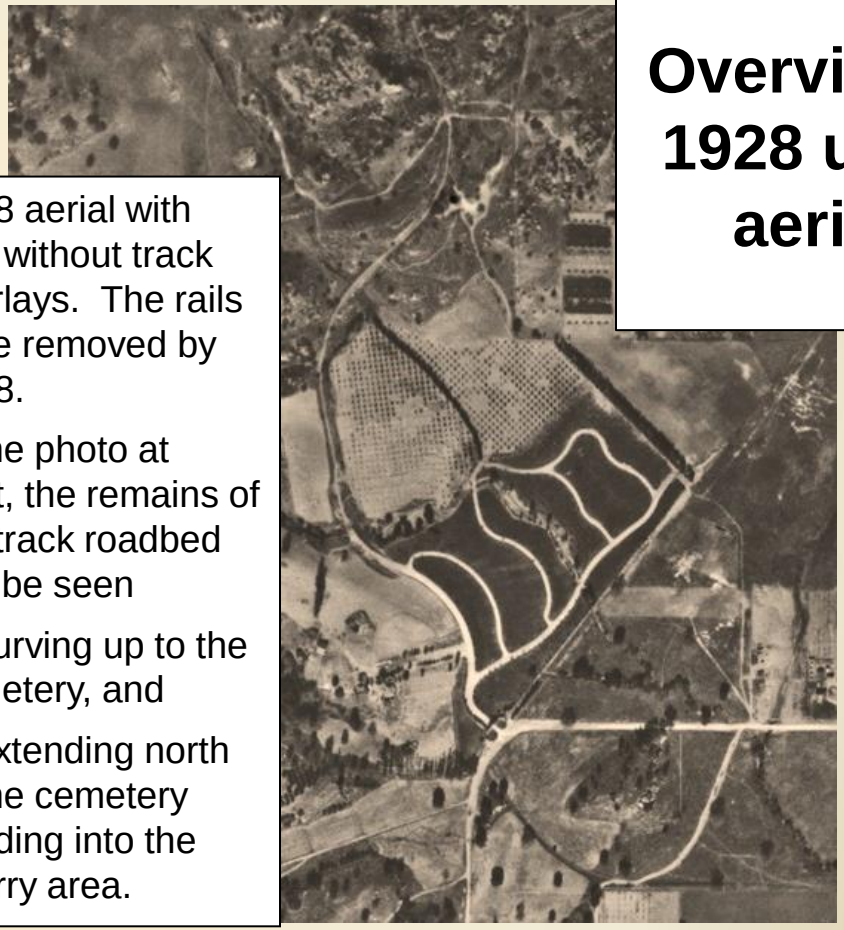


A different look using an overlay of a 1928 UC Santa Barbara (ucsb) aerial

Note: The 1901 Quarry track (in blue and green) was removed by 1918.

The 1924 Oakwood Cemetery Road follows the same path as the 1901 Quarry Spur.

Overview – 1928 ucsb aerial



1928 aerial with and without track overlays. The rails were removed by 1918.

In the photo at right, the remains of the track roadbed can be seen

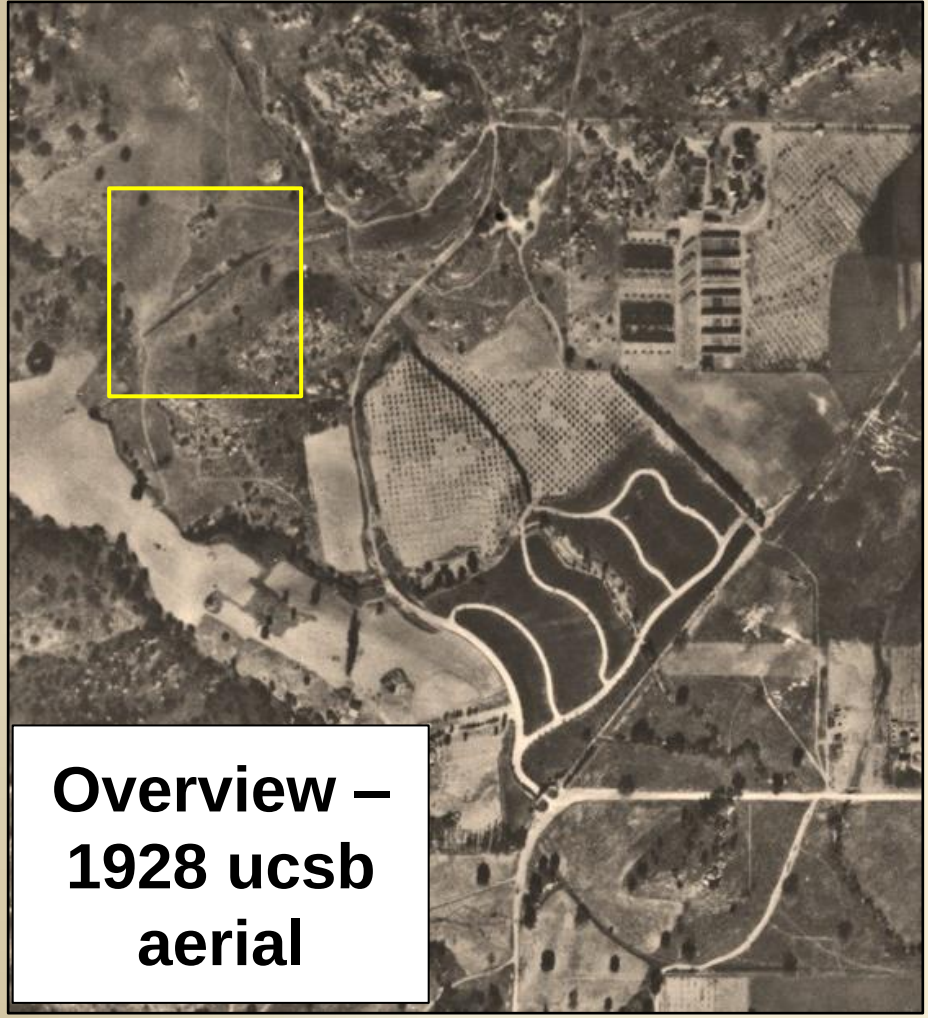
1. curving up to the cemetery, and

2. extending north of the cemetery heading into the quarry area.

Overview – 1928 ucsb aerial

Above is an enlargement of a section of the 1928 aerial at left.

The yellow circle identifies a carefully engineered track roadbed over a drainage draw.

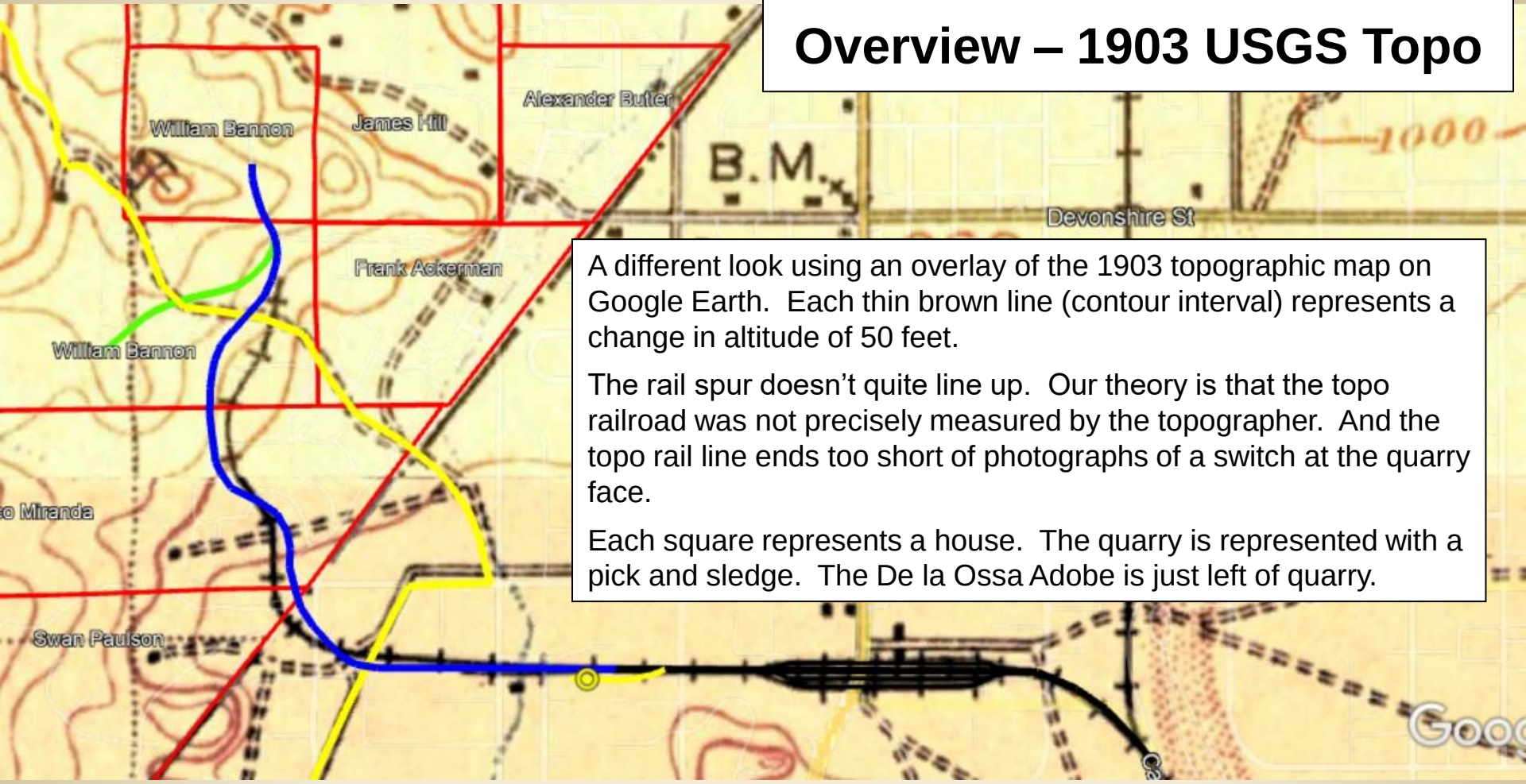


Overview – 1928 ucsb aerial

Above is an enlargement of a section of the photo at left.

Our theory is that empty flatcars were stored overnight in a “cut”, that still exists right off of the Andora Trail in the Santa Susana Pass State Historic Park.

Overview – 1903 USGS Topo



A different look using an overlay of the 1903 topographic map on Google Earth. Each thin brown line (contour interval) represents a change in altitude of 50 feet.

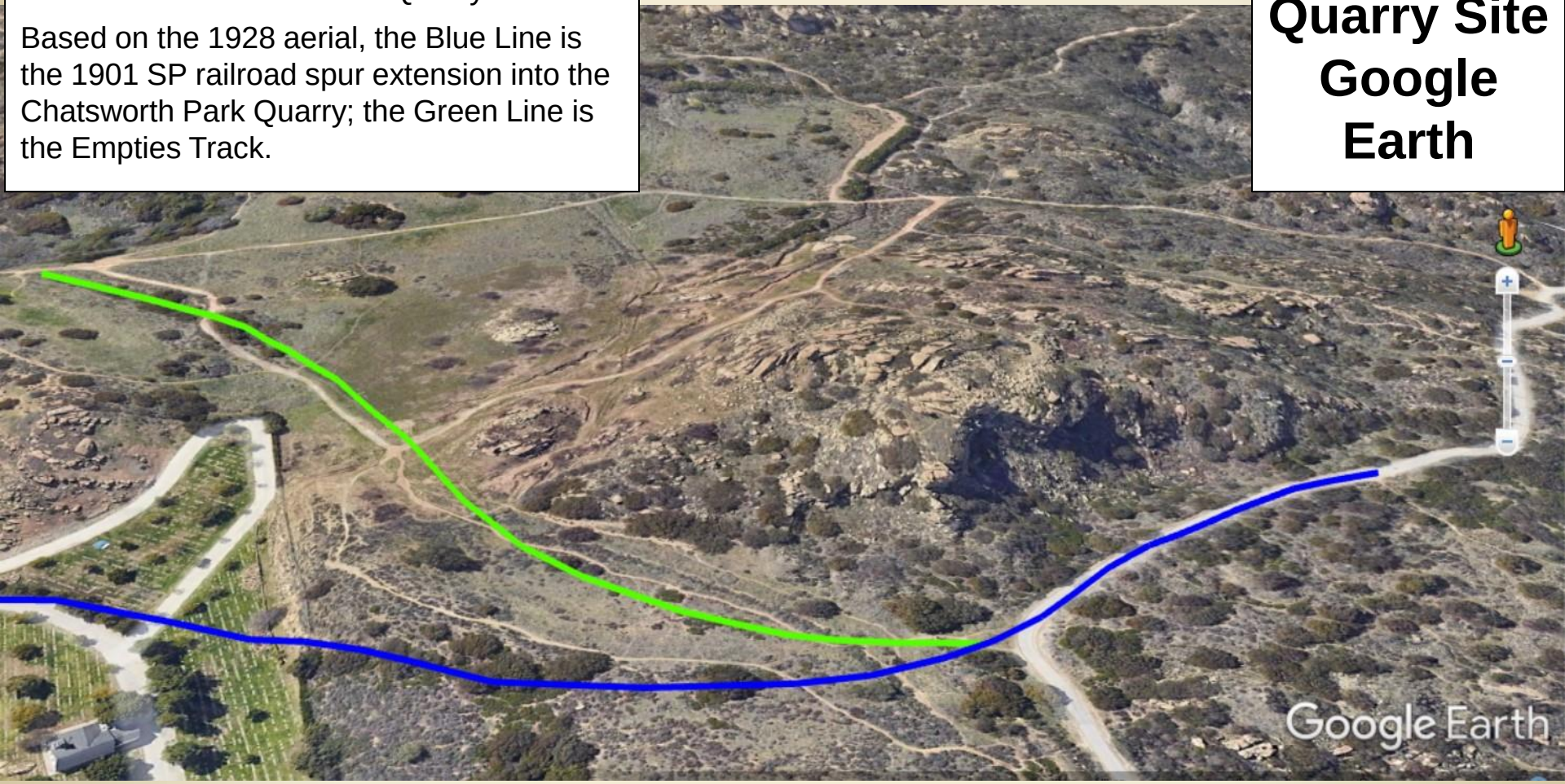
The rail spur doesn't quite line up. Our theory is that the topo railroad was not precisely measured by the topographer. And the topo rail line ends too short of photographs of a switch at the quarry face.

Each square represents a house. The quarry is represented with a pick and sledge. The De la Ossa Adobe is just left of quarry.

3D view of the Chatsworth Quarry

Based on the 1928 aerial, the Blue Line is the 1901 SP railroad spur extension into the Chatsworth Park Quarry; the Green Line is the Empties Track.

Quarry Site Google Earth

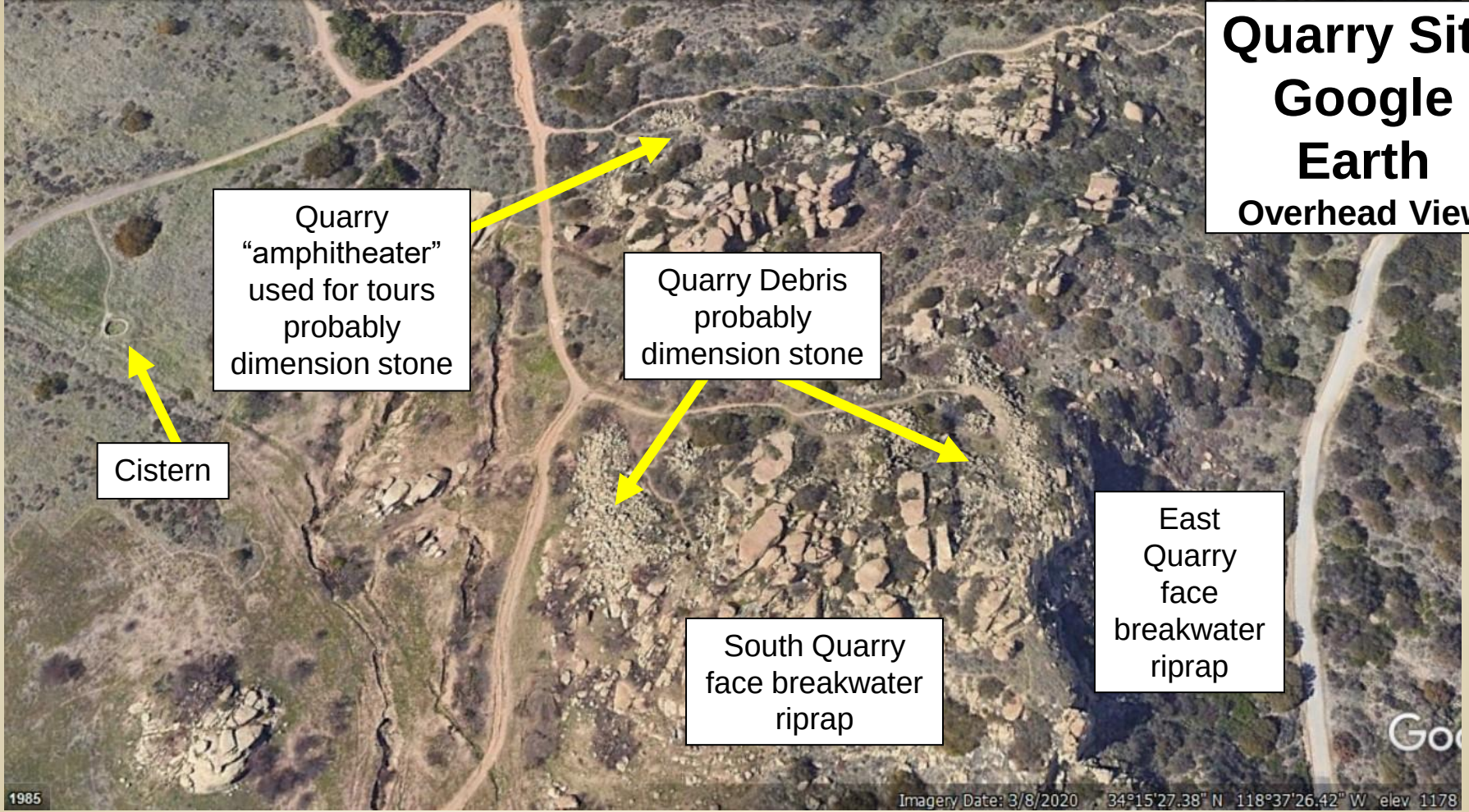


Quarry Site Google Earth

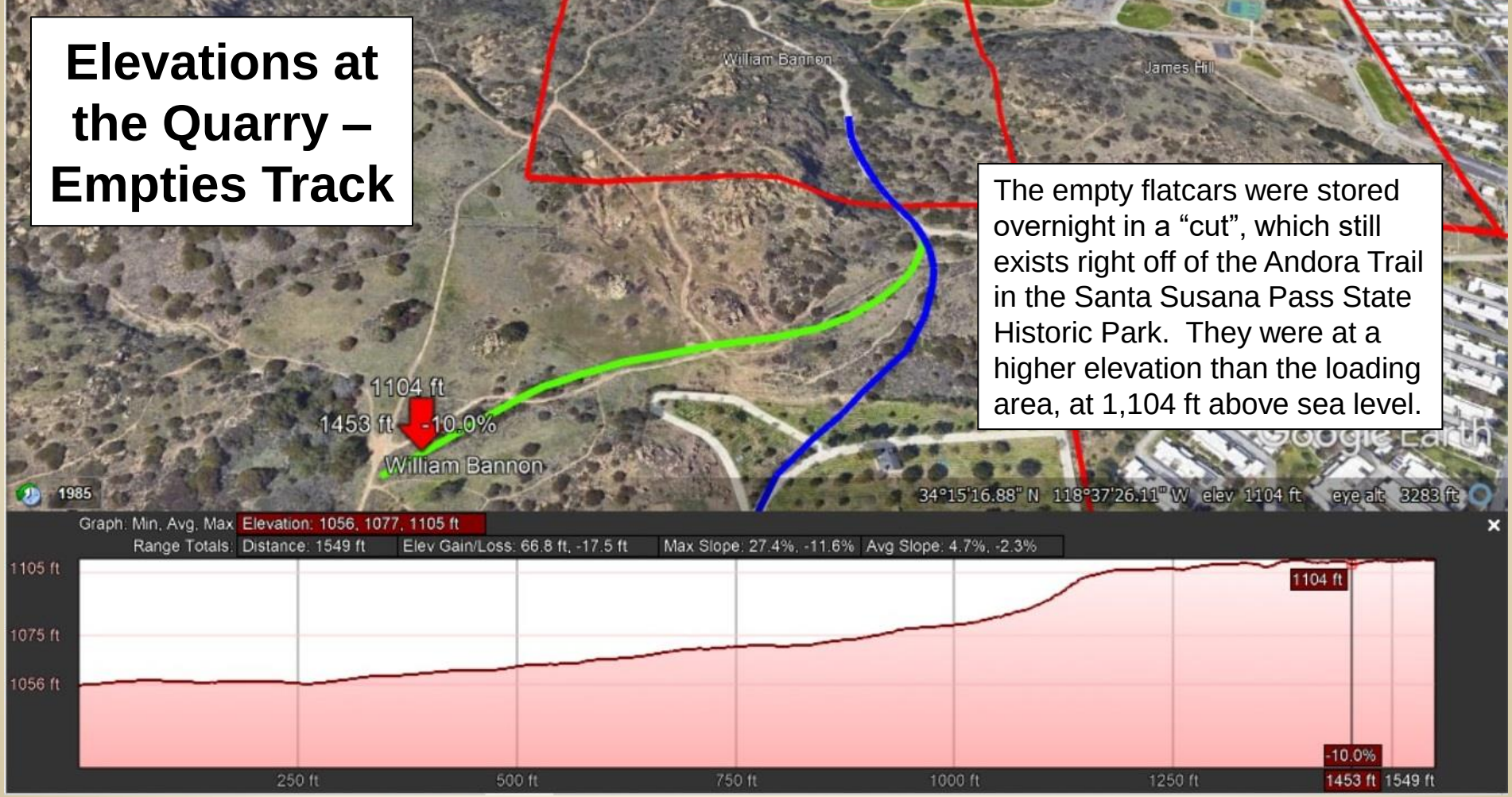
Overhead View

Quarry Site Google Earth

Overhead View

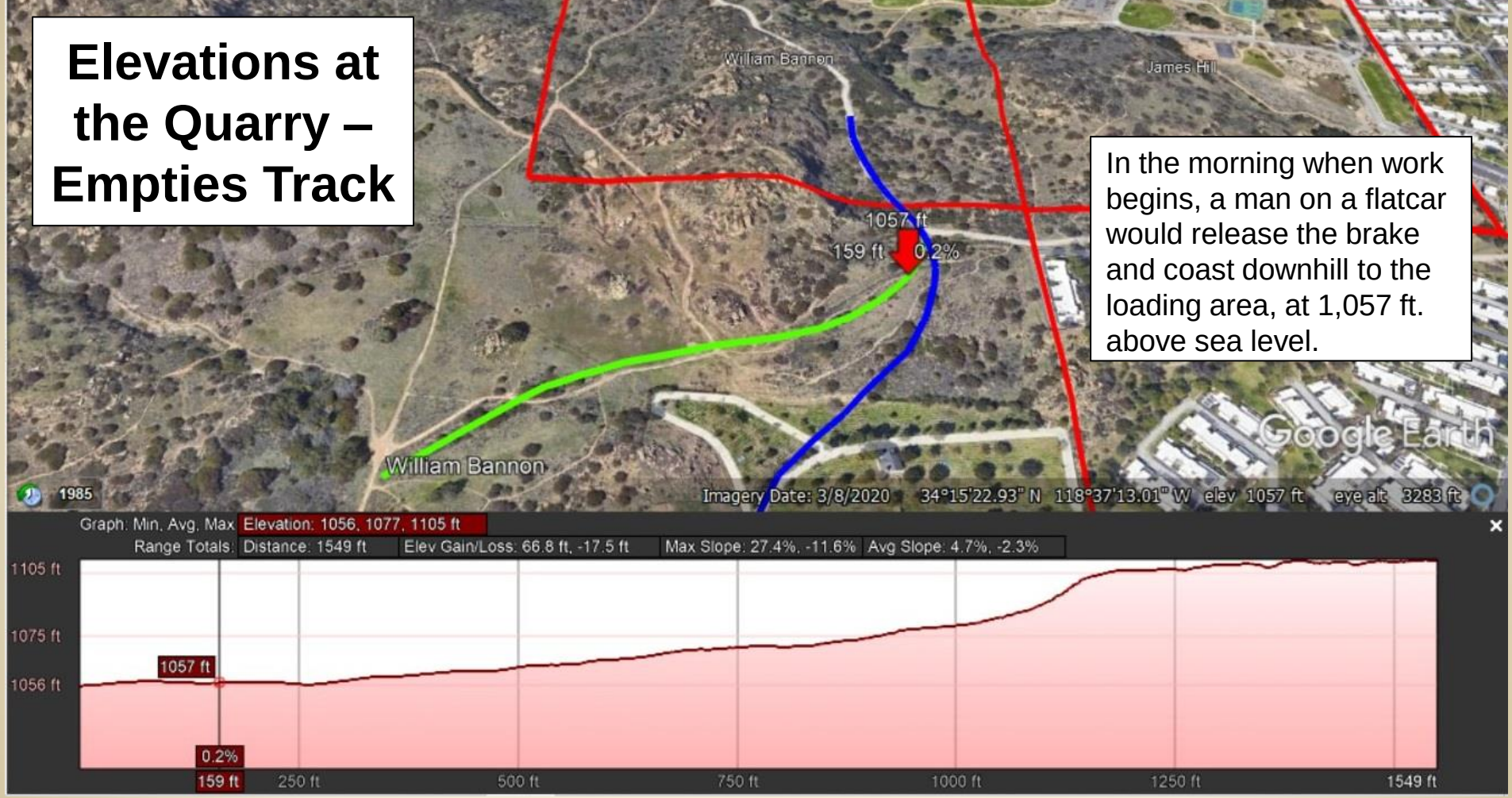


Elevations at the Quarry – Empties Track



The empty flatcars were stored overnight in a “cut”, which still exists right off of the Andora Trail in the Santa Susana Pass State Historic Park. They were at a higher elevation than the loading area, at 1,104 ft above sea level.

Elevations at the Quarry – Empties Track

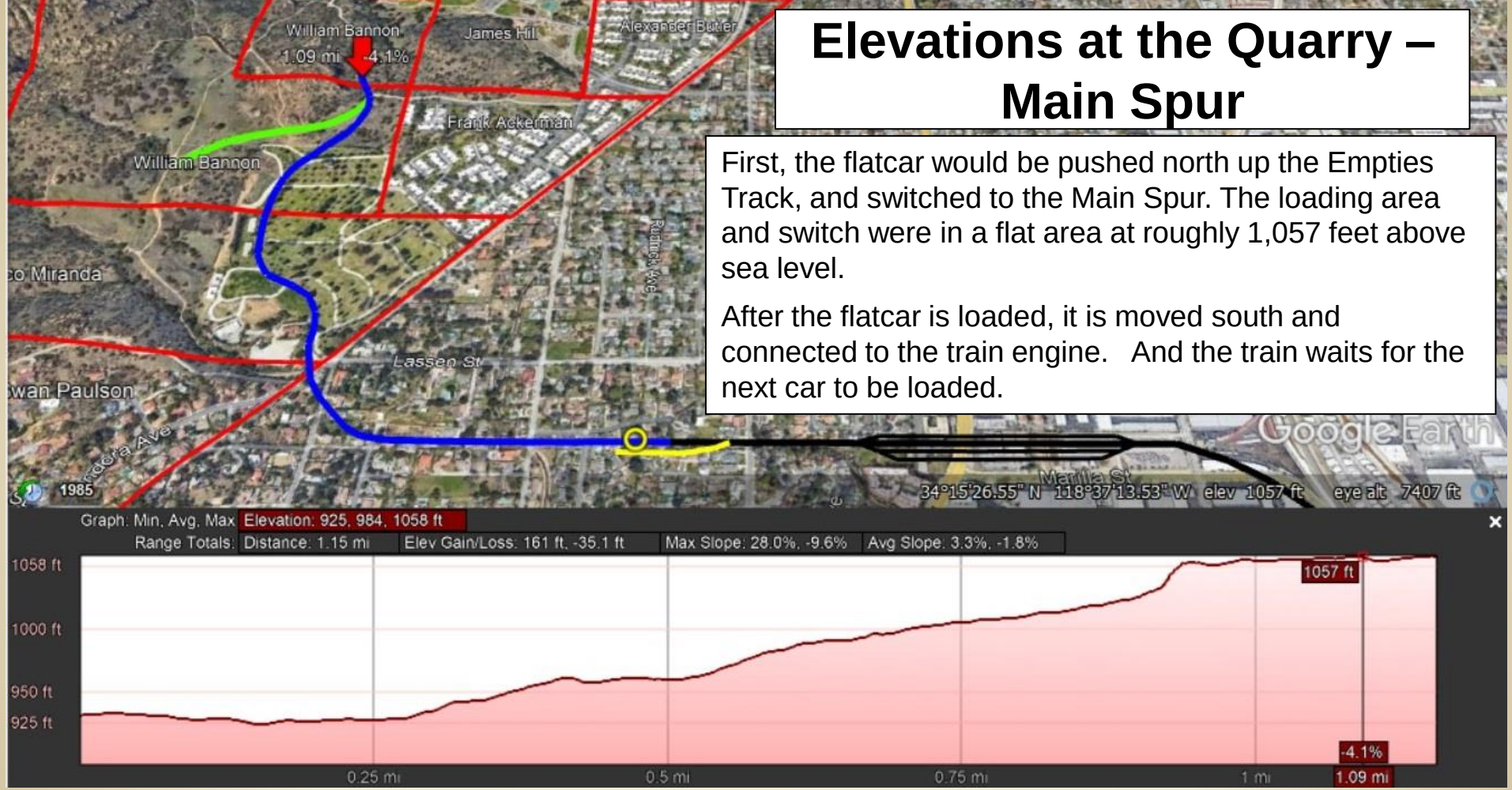


In the morning when work begins, a man on a flatcar would release the brake and coast downhill to the loading area, at 1,057 ft. above sea level.

Elevations at the Quarry – Main Spur

First, the flatcar would be pushed north up the Empties Track, and switched to the Main Spur. The loading area and switch were in a flat area at roughly 1,057 feet above sea level.

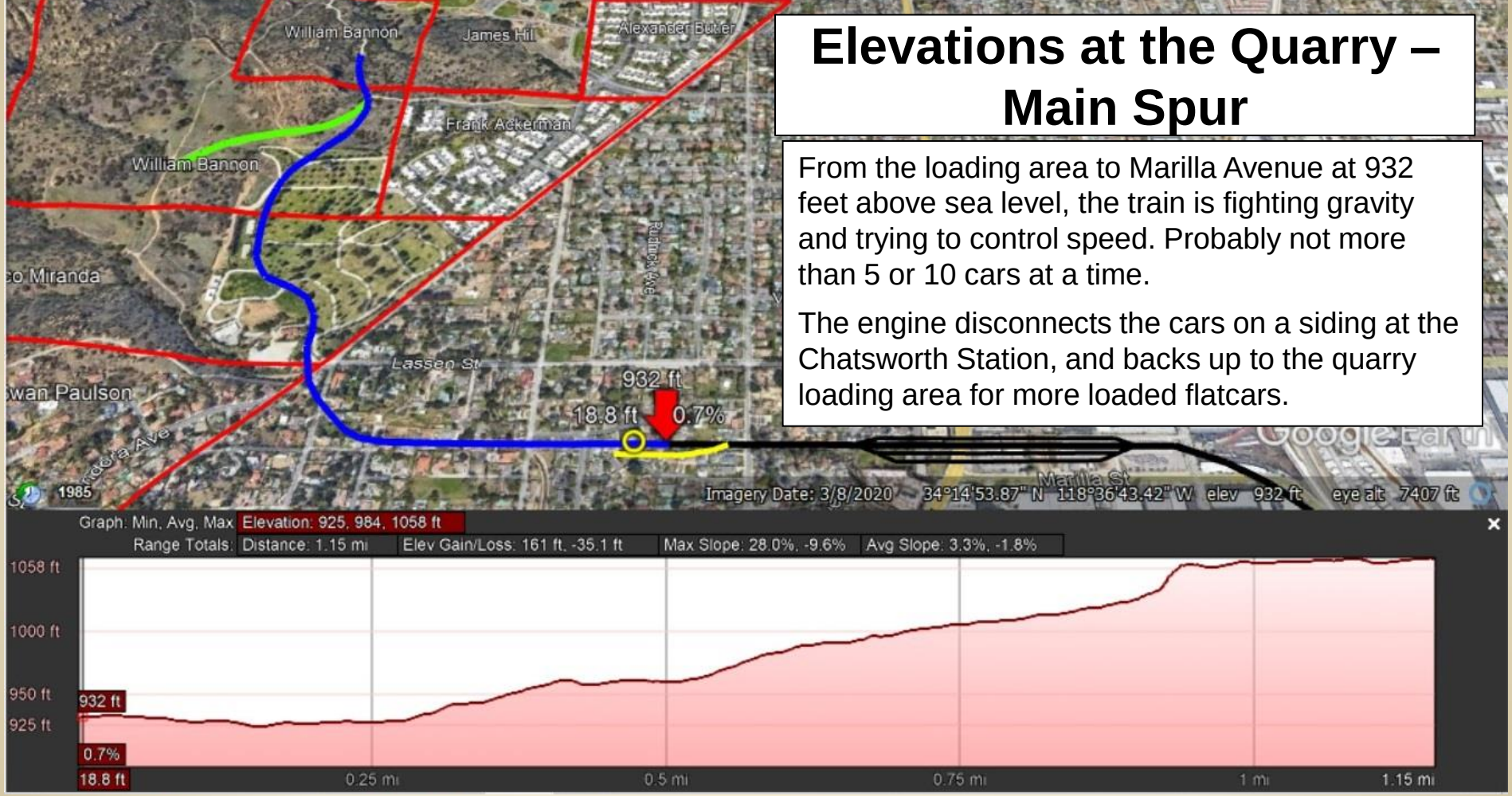
After the flatcar is loaded, it is moved south and connected to the train engine. And the train waits for the next car to be loaded.



Elevations at the Quarry – Main Spur

From the loading area to Marilla Avenue at 932 feet above sea level, the train is fighting gravity and trying to control speed. Probably not more than 5 or 10 cars at a time.

The engine disconnects the cars on a siding at the Chatsworth Station, and backs up to the quarry loading area for more loaded flatcars.



1861-1895 Stagecoach Trail Swing Station

- **De la Ossa Adobe**: The 1861 Stagecoach Trail Swing Station, La Cuesta, run by the De la Ossas from Encino (before Bannon)
- The 1876 completion of the Southern Pacific Railroad tunnel through San Fernando ended the need to provide long-distance stagecoach service in California.
- For more information, see the Chatsworth Stagecoach Trail presentation

De la Ossa Stagecoach Swing Station

- Vicente and Rita De la Ossa are prominent citizens in Alta California, owning Rancho Providencia (Burbank) in 1839, then Rancho Los Encinos in 1849.
- In 1851, Manuela, their oldest daughter, marries James Thompson.
- In 1852, Thompson obtains a 5 year lease to half of Rancho La Brea. In 1857, Thompson captures the bandit Juan Flores in Santa Susana Pass. He serves as the LA County Sheriff in 1858-59.
- In 1858, Fabricio, son of the Vicente and Rita, owns land near the base of the Santa Susana Pass called *La Cuesta (the slope)*.
- In 1859, the state provided $15,000 to fix up the Santa Susana Pass Wagon Road, under the supervision of James P. Thompson. He had also been awarded the contract to use the pass for carrying mail.

Jim and Manuela Thompson

De la Ossa Stagecoach Swing Station

- In 1861, The first overland stagecoach to use the pass made its run between San Francisco and Los Angeles on April 6. It was the Butterfield Stage line and the trip took 72 hours (3 days).
- 1861-1877, Fabricio runs the Stagecoach Swing Station at La Cuesta, and builds the De la Ossa adobe on the site. In 1868, the widowed Rita De la Ossa and her seven children under the age of 17 move into the adobe at La Cuesta with Fabricio.
- The 1876 completion of the Southern Pacific Railroad (SP) tunnel through San Fernando ended the need to provide long-distance stagecoach service in California.
- In the 1880 census, Rita De la Ossa, 63, is living in Chatsworth with son Fabricio, 40, and four other children at the De la Ossa adobe. Her neighbor to the south was Francisco Miranda.
- William Bannon acquires the De la Ossa adobe in 1891.

Rita De la Ossa

1892 to 1901

Dimension Stone:
The Chatsworth Park Quarry before the spur extension

William Bannon’s contributions to Chatsworth and Southern California

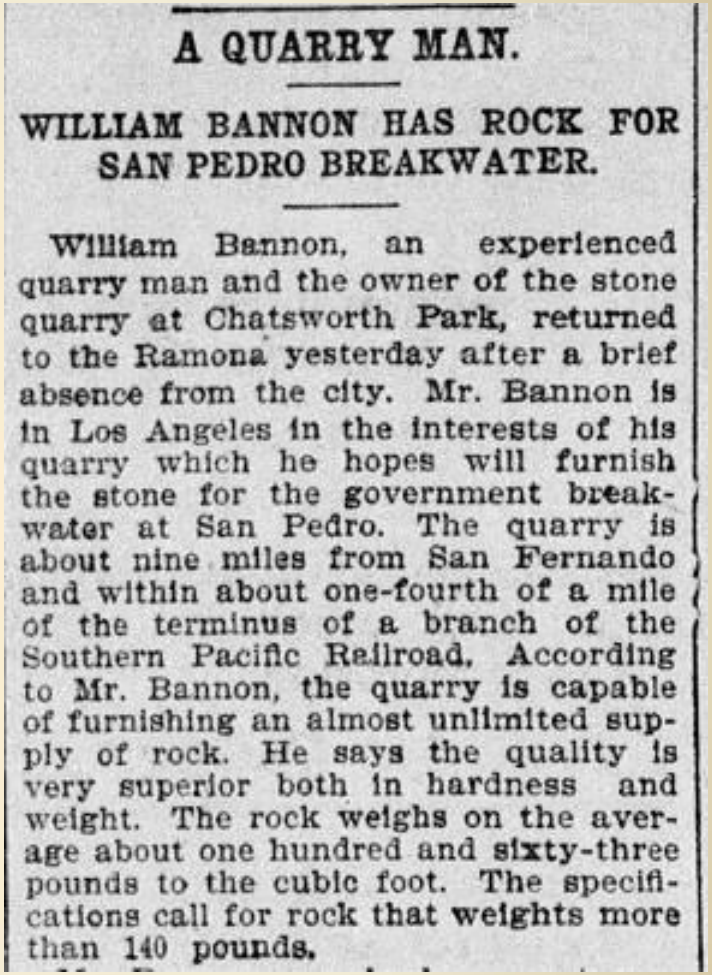
Chatsworth Park Quarry dimension stone and road building projects

William Bannon Background

- **William Bannon** was an experienced quarryman. Before arriving in California, he had worked for over 10 years in Texas, in charge of the quarries used for the Galveston Harbor jetties, and the stone used in the Austin State Capital Building.
- In 1887 he came to California and was in charge of the Grayrock quarries that produced the rock for the buildings at Stanford University.
- In 1891 he acquired the De la Ossa adobe which was held as a stone (mining) claim by Gabriel Allen(1), who had served on the LA County Board of Supervisors.

(1) Source: 1974 Joe Bannon interview

1900-05-24 Los Angeles Times article introducing William Bannon part1



A QUARRY MAN.

WILLIAM BANNON HAS ROCK FOR SAN PEDRO BREAKWATER.

William Bannon, an experienced quarry man and the owner of the stone quarry at Chatsworth Park, returned to the Ramona yesterday after a brief absence from the city. Mr. Bannon is in Los Angeles in the interests of his quarry which he hopes will furnish the stone for the government breakwater at San Pedro. The quarry is about nine miles from San Fernando and within about one-fourth of a mile of the terminus of a branch of the Southern Pacific Railroad. According to Mr. Bannon, the quarry is capable of furnishing an almost unlimited supply of rock. He says the quality is very superior both in hardness and weight. The rock weighs on the average about one hundred and sixty-three pounds to the cubic foot. The specifications call for rock that weights more than 140 pounds.

William Bannon Background

1900-05-24 Los Angeles Times article introducing William Bannon

Parts 2 & 3

Mr. Bannon says he has great confidence that his quarry will be selected. The president of the California Construction Company visited the quarry about a week ago and was well pleased with the Chatsworth stone. Vice-President McNally is expected within a few days, and Mr. Bannon believes the deal will then be closed.

While keeping an eye open for the "main chance," Mr. Bannon is neglecting no opportunity to dispose of his rock in other directions. Today he goes to Santa Ana, taking with him a large sample of the product of his quarry. He believes his rock will be the material selected for the construction of the new Courthouse in that city.

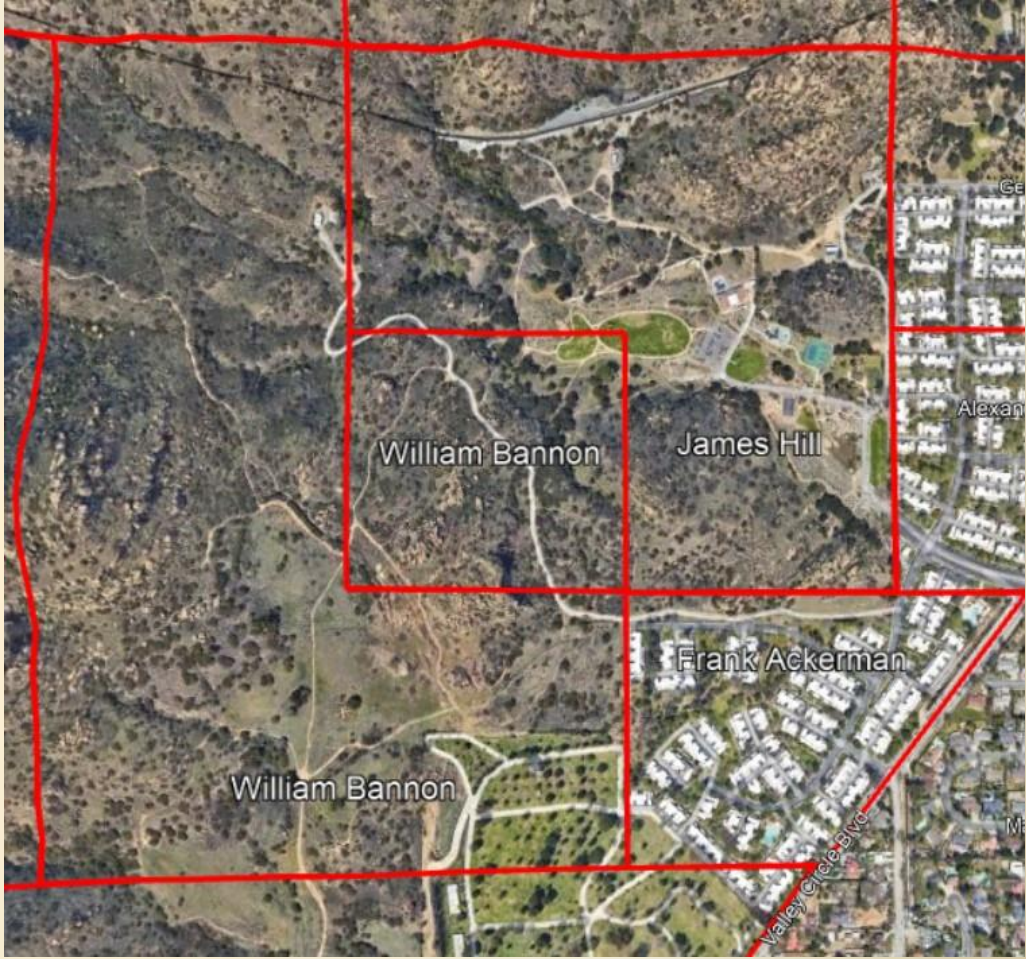
Mr. Bannon has had much experience as a quarry man. For nearly ten years he was in the employ of the International and Great Northern Railway in Texas. He had charge of the quarries from which rock was taken for the jetties in Galveston Harbor. Later he was placed in charge of the quarry from which came the rock to build the large State Capitol building at Austin.

Some years ago, he came to California for his wife's health. He landed in San José. His eastern friends had given him letters of recommendation to the late Senator Stanford, then Governor, and by this means he came to be employed at the Grayrock quarries which furnished the stone for the Stanford University buildings. He came to Southern California and acquired the Chatsworth quarry and now is ambitious to furnish stone for the breakwater.

The haul between the quarry and San Pedro, Mr. Bannon says, is about forty-eight miles. The Southern Pacific, it is claimed, has no other interest in the matter than that of a common carrier.

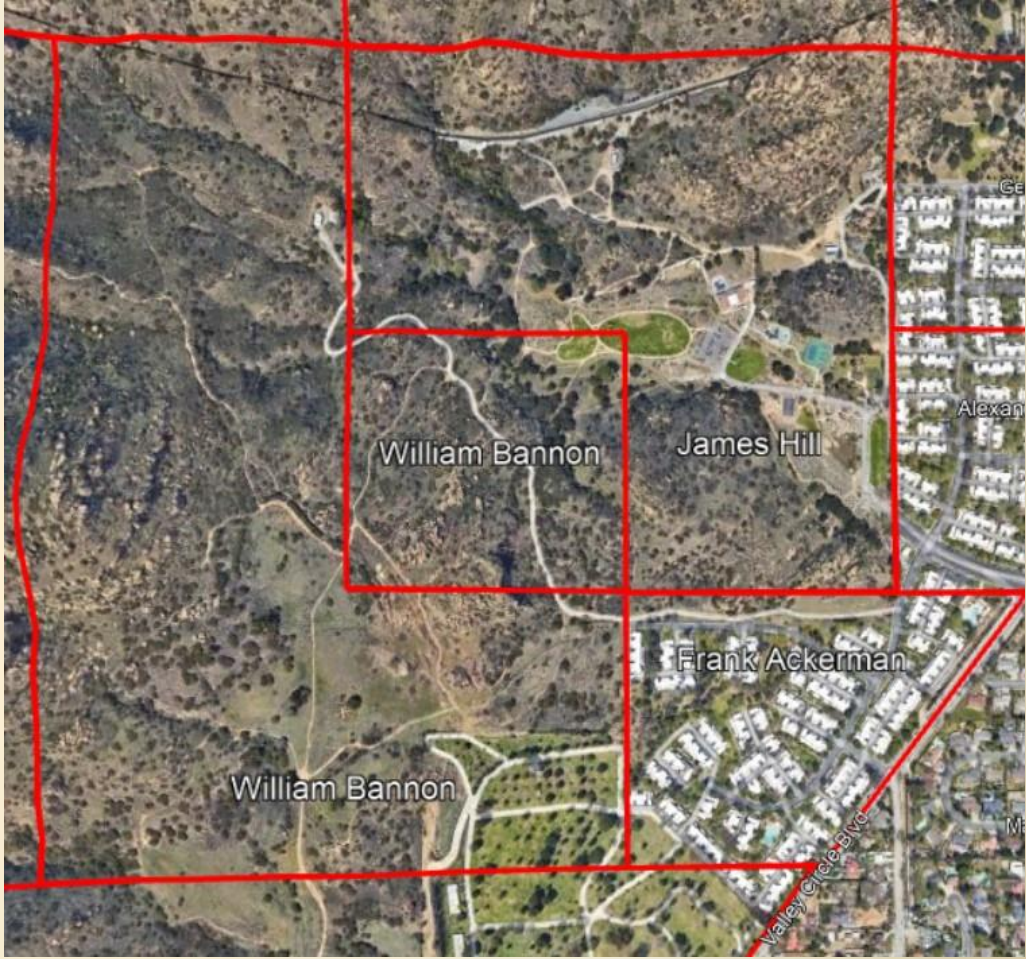
William Bannon Homestead

- In 1891, he acquired the De la Ossa adobe.
- In 1892, 50-year-old William Bannon homesteaded 160 acres with his wife and eight children. He added a two-room wood frame addition, restored and expanded the existing two stone reservoirs, added fencing, and cultivated 50 to 90 acres of “rolling farmland” to raise seasonal crops and grow fruit trees.
- Nine years later, in August 1901, he earned the 160 homestead acres, and purchased an additional 40 acres.



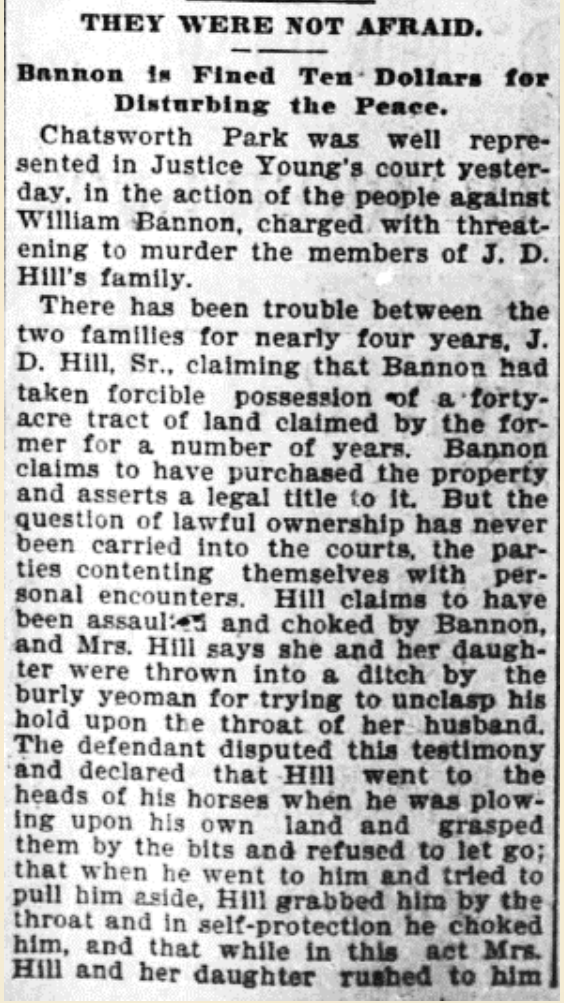
William Bannon dispute with James Hill over 40 acres

- James Hill arrived in Chatsworth in 1886, William Bannon arrived five years later in 1891. Yet James Hill only ended up with 120 acres, not the normal 160 acres.
- An 1896 LA Times newspaper article reports that, according to James Hill, the 40 acres missing from the southwest section of the Hill homestead was “forcibly taken” by Bannon in 1892. Bannon claims to have purchased the property (*Gabriel Allen stone claim*) and asserts legal right to it.
- The 40 acres in dispute is the northern part of the quarry.



William Bannon dispute with James Hill over 40 acres

1896-06-16 Los Angeles Times article 40 acre dispute



THEY WERE NOT AFRAID.

Bannon is Fined Ten Dollars for Disturbing the Peace.

Chatsworth Park was well represented in Justice Young's court yesterday, in the action of the people against William Bannon, charged with threatening to murder the members of J. D. Hill's family.

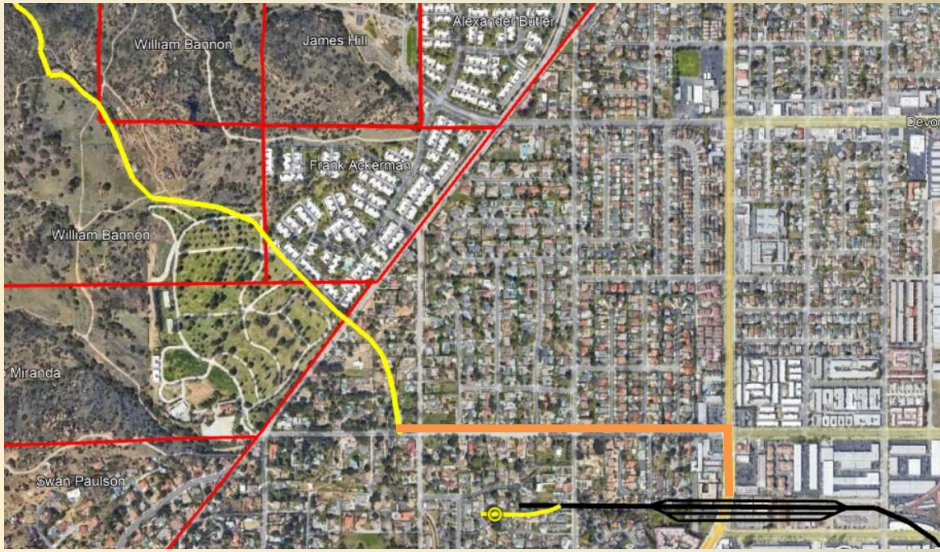
There has been trouble between the two families for nearly four years, J. D. Hill, Sr., claiming that Bannon had taken forcible possession of a forty-acre tract of land claimed by the former for a number of years. Bannon claims to have purchased the property and asserts a legal title to it. But the question of lawful ownership has never been carried into the courts, the parties contenting themselves with personal encounters. Hill claims to have been assaulted and choked by Bannon, and Mrs. Hill says she and her daughter were thrown into a ditch by the burly yeoman for trying to unclasp his hold upon the throat of her husband. The defendant disputed this testimony and declared that Hill went to the heads of his horses when he was plowing upon his own land and grasped them by the bits and refused to let go; that when he went to him and tried to pull him aside, Hill grabbed him by the throat and in self-protection he choked him, and that while in this act Mrs. Hill and her daughter rushed to him and, grasping him by the collar, tore his undershirt completely from his body, leaving him naked to the waist, to the horror of his wife. He swore that he did not lay violent hands upon either woman.

On May 24, Bannon says he was out driving in his cart and took a few glasses of wine at a neighbor's; in driving by the Hill place he met two of the Hill boys, and, having heard that one of them had threatened to whip him, told him now was the opportunity of his life. Young Hill went on and refused to fight. He did not know what he had said to the family, as he was pretty full and also very angry.

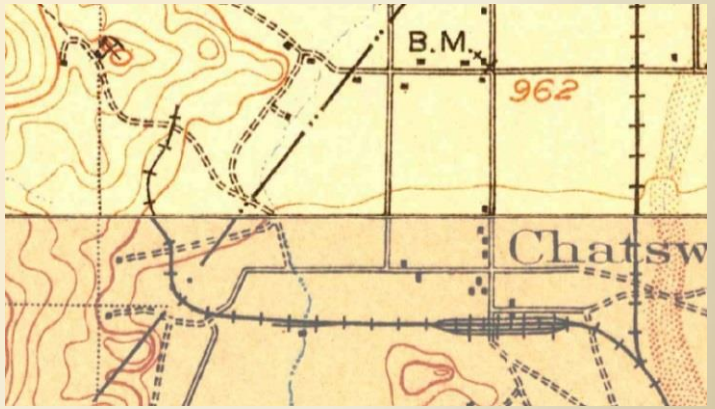
The Hills testified that he swore fearfully and threatened to go and get two six-shooters and do up the whole —— —— family. But under oath the Hills would not admit that they were afraid of the defendant or believed he would carry his threats into execution, and upon this showing the prosecution moved for a dismissal of the grave charge. But a new complaint was immediately prepared and Bannon was arrested for disturbing the peace, and upon the prosecution showing a bold front, the defendant pleaded guilty, under the advice of his attorney, and was fined $10, or in lieu thereof, sentenced to ten days in the County Jail. Bannon was permitted to go on his own recognizance and given till 10 o'clock this morning to liquidate.

Chatsworth Park Quarry Dimensional Stone

- In 1892 Chatsworth Park Stone Quarry operations began.
- In October 1893, the Southern Pacific Railroad completes the Burbank Branch to Chatsworth.
- For a period of 9 years, 1892-1901, the Chatsworth Park Quarry produced dimensional stone for use as building foundations or ornamental stonework.

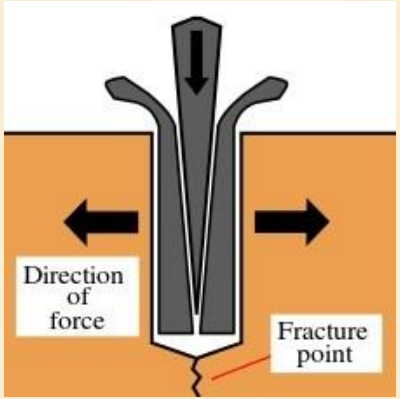


- 1893-1901 The Trip from the Quarry to the Railroad via horse-drawn wagon:
- The yellow line shows the route from the quarry to Lassen near Shoup (Stagecoach Trail), extrapolated from the 1903 topo map to the right. The orange line would take the dimensional stone east on Lassen and then south on Topanga (then Santa Susana) to the rail yard.



How to cut (split) Dimensional Stone

1. Manually drill a series of holes into the stone using a star drill and a small 3lb. sledge hammer (or today, use a rotary hammer drill and masonry bits)
2. Put a wedge and two shims into each hole
3. Hit the wedges with the sledge, until the rock splits.



Note: During the Bronze Age (3300 to 1200BC), the Greeks, Romans and Egyptians had the tools to quarry stone and build temples and monuments

Examples of split stone in the Quarry

3rd Grade Interpretive Hike in the Quarry

2013 - Ann and Ray Vincent at a 3rd Grade Interpretive Hike at the Chatsworth Park Quarry

3rd Grade Interpretive Hike in the Quarry

- 2014 – A 3rd Grade student splits a rock.
- The class quietly listens at each hit of the hammer, the tone or “pitch” changes as the wedge applies force right before the rock breaks.

Note: Our example rocks were obtained from private property, not State Park property.

It was a lot of work to prepare the rocks for the students, and carry them in and out. This only lasted for a few years…

Other sites in the Quarry

Overview above, circled area at right

- Stacked rocks indicate a derrick moved by horse-power.
- Dimension stone would be moved using a horse-drawn stone boat or wagon.
- Discarded rock may be remains of dimension stone quarrying

Other sites in the Quarry

Overview above, circled area at right

- Stacked rocks indicate a derrick moved by horse-power.
- Dimension stone would be moved using a horse-drawn stone boat or wagon.
- Discarded rock may be remains of dimension stone quarrying

Chatsworth Park Quarry Dimensional Stone

- In 1895 Los Angeles County built a new road to the north of the Stagecoach Trail.
- This dirt road was cut into the pass and featured **turnouts and retaining walls built of dimensional sandstone from the Bannon quarry.**
- Initially named the "New Santa Susanna Pass Road (through William's Cañon)" per the 1893 map to the right, it was later referred to as the Chatsworth Grade Road. In the SSPSHP, it is named "El Camino Nuevo".

The 1895 Chatsworth Grade Road was replaced in 1917 with the asphalt Santa Susana Pass Road.

Chatsworth Park Quarry Dimensional Stone

- Among the noted buildings that featured what became known as “Chatsworth Park Sandstone,” were several downtown Los Angeles landmark buildings: the Stimson Building, the California Club, Christ Episcopal Church, the Police Station and Jail, and the Southern California Edison Company Building.
- One building still in existence is the Church of the Angels, Pasadena, at right.

Chatsworth Park Quarry
Dimensional Stone

- Mr. and Mrs. Bannon built a bunk house, kitchen, and dining room on the property for the Quarry workers. It was down in the flat. Mrs. Bannon had help in the kitchen from Mrs. Ackerman. (source: 1974 Joe Bannon interview)
- Larger blocks were sent to the Bly Brothers Stone Cutting yard in Los Angeles, where workers used mechanical drills, saws, planers, and surfacing machines to cut and shape the stone.

1901-1907
Supplying the
San Pedro Breakwater

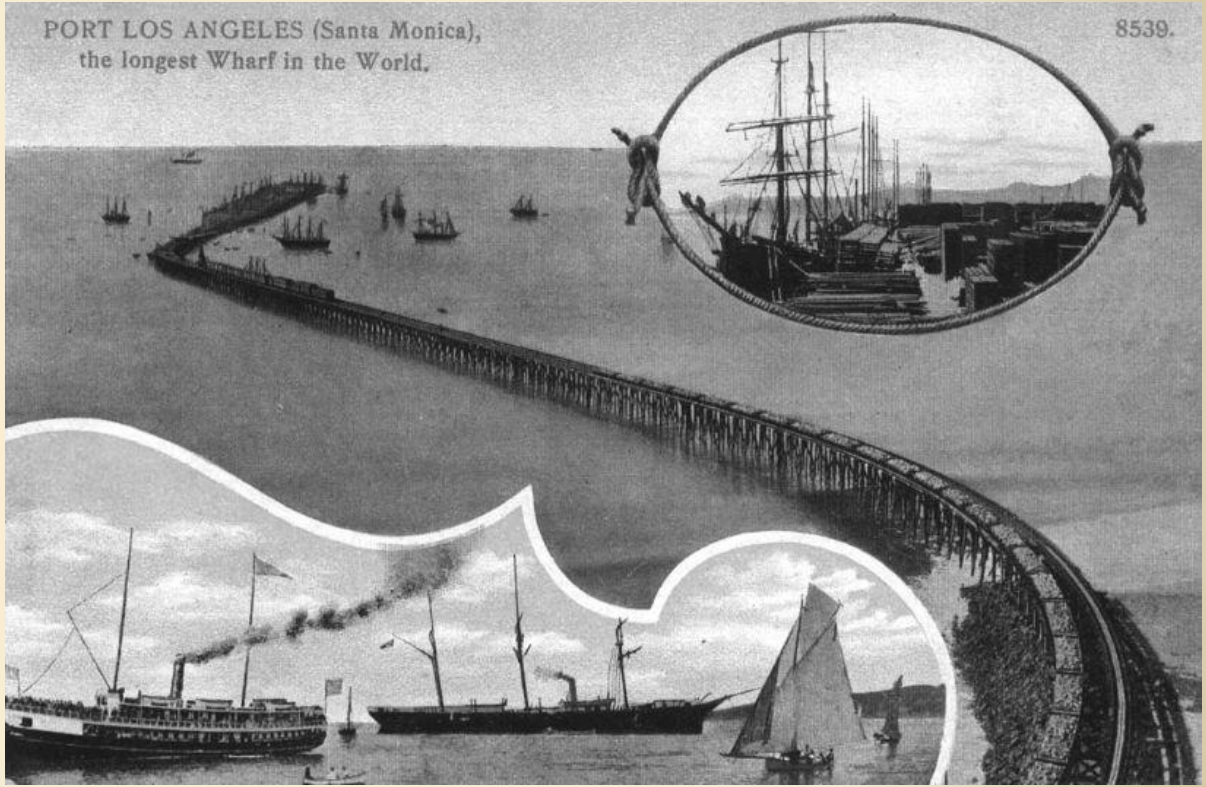
The **Chatsworth Park Quarry** supplies
millions of tons of riprap sandstone
to form the core of the
San Pedro Breakwater

San Pedro Breakwater Background

- In 1893 the Southern Pacific had completed its famed “long wharf” at Santa Monica and as oceangoing traffic began to use its facilities, **Port Los Angeles** came into existence.

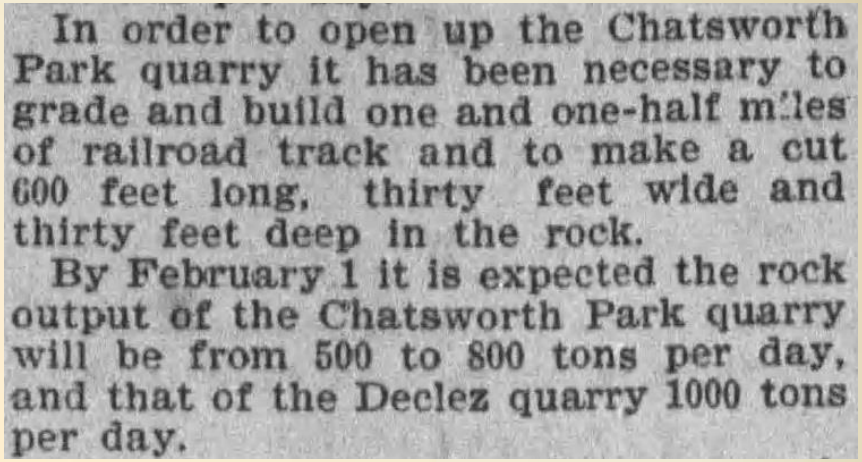
- In 1897 a federal commission chose San Pedro Bay as the site of **Los Angeles Harbor**. As a result, federal funds were used.

- San Pedro required the building of a breakwater.



San Pedro Breakwater

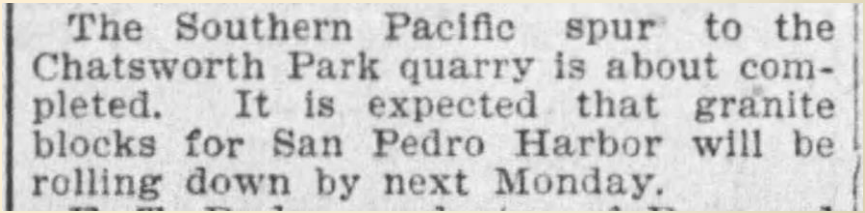
- 3 years later in May 1900, A **new contract** for the San Pedro Breakwater was announced, after a previous contract was canceled due to delays. It was awarded to the **California Construction Company.**
- Two quarries were mentioned, granite at Declez in Riverside, and sandstone at Chatsworth Park.
- In January 1901, Southern Pacific laid another mile of track into the **Chatsworth Park Quarry**, as a result of the San Pedro Breakwater contract.



In order to open up the Chatsworth Park quarry it has been necessary to grade and build one and one-half miles of railroad track and to make a cut 600 feet long, thirty feet wide and thirty feet deep in the rock.

By February 1 it is expected the rock output of the Chatsworth Park quarry will be from 500 to 800 tons per day, and that of the Declez quarry 1000 tons per day.

1901-01-11 LATimes

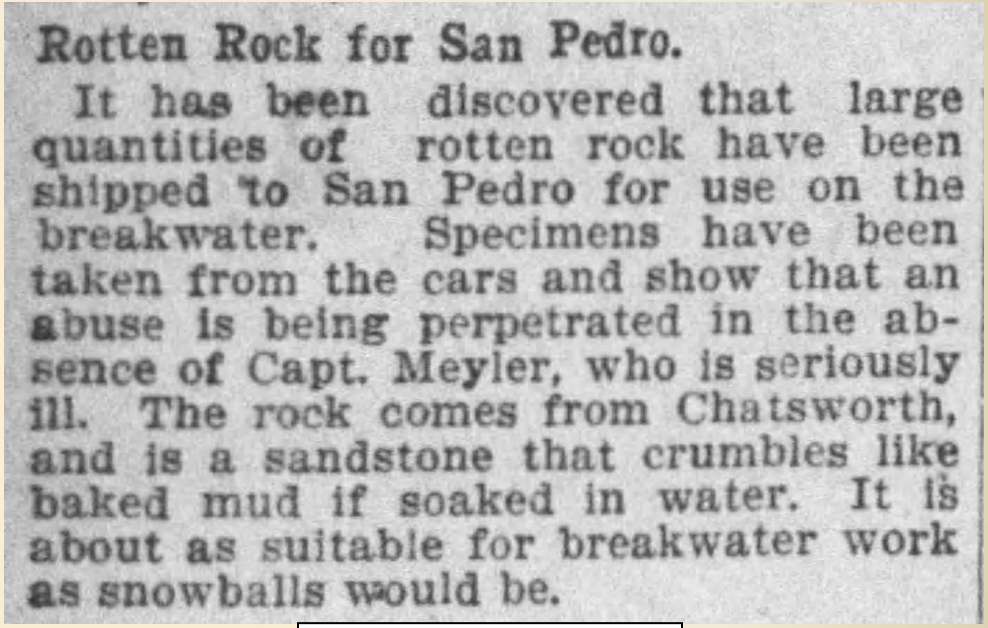


The Southern Pacific spur to the Chatsworth Park quarry is about completed. It is expected that granite blocks for San Pedro Harbor will be rolling down by next Monday.

1901-01-23 LATimes

1901-1907 Supplying the San Pedro Breakwater Gets off to a Rocky Start……

- The first article on the rock from the LA Times declares “Rotten Rock for San Pedro”
- On Feb 2nd the first trainload of 23 carloads of sandstone is dumped into the breakwater.
- the second trainload of 34 carloads is held up pending inspection.
- “The rock comes from Chatsworth, and is a sandstone that crumbles like baked mud if soaked in water”
- “It is about as suitable for breakwater work as snowballs would be.”



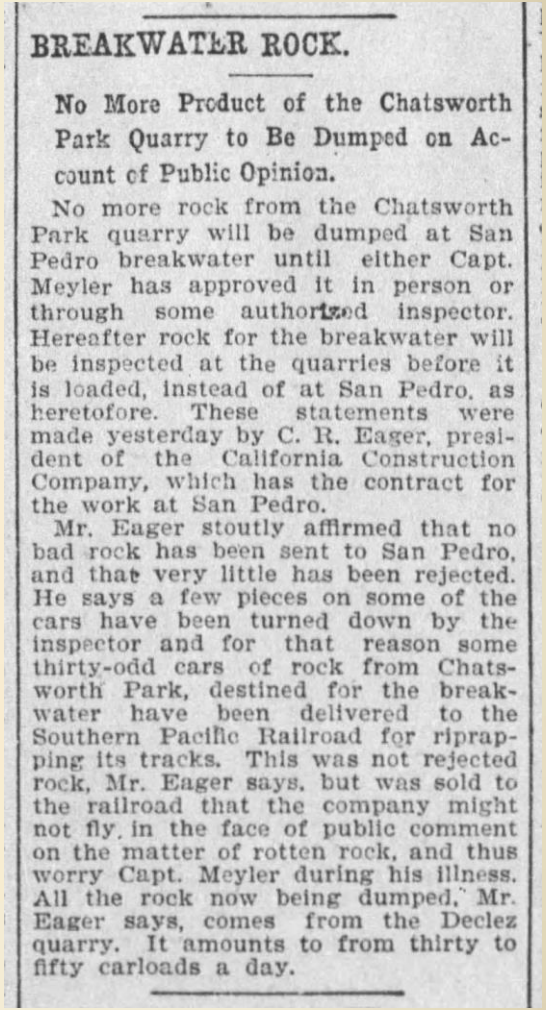
Rotten Rock for San Pedro.

It has been discovered that large quantities of rotten rock have been shipped to San Pedro for use on the breakwater. Specimens have been taken from the cars and show that an abuse is being perpetrated in the absence of Capt. Meyler, who is seriously ill. The rock comes from Chatsworth, and is a sandstone that crumbles like baked mud if soaked in water. It is about as suitable for breakwater work as snowballs would be.

1901-02-05 LATimes

1901-1907 Supplying the San Pedro Breakwater

- On Feb 23rd it is reported that No More Product of the Chatsworth Park Quarry" without inspection.
- **Rock will now be inspected at the quarry before it is loaded, instead of at San Pedro.**



BREAKWATER ROCK.

No More Product of the Chatsworth Park Quarry to Be Dumped on Account of Public Opinion.

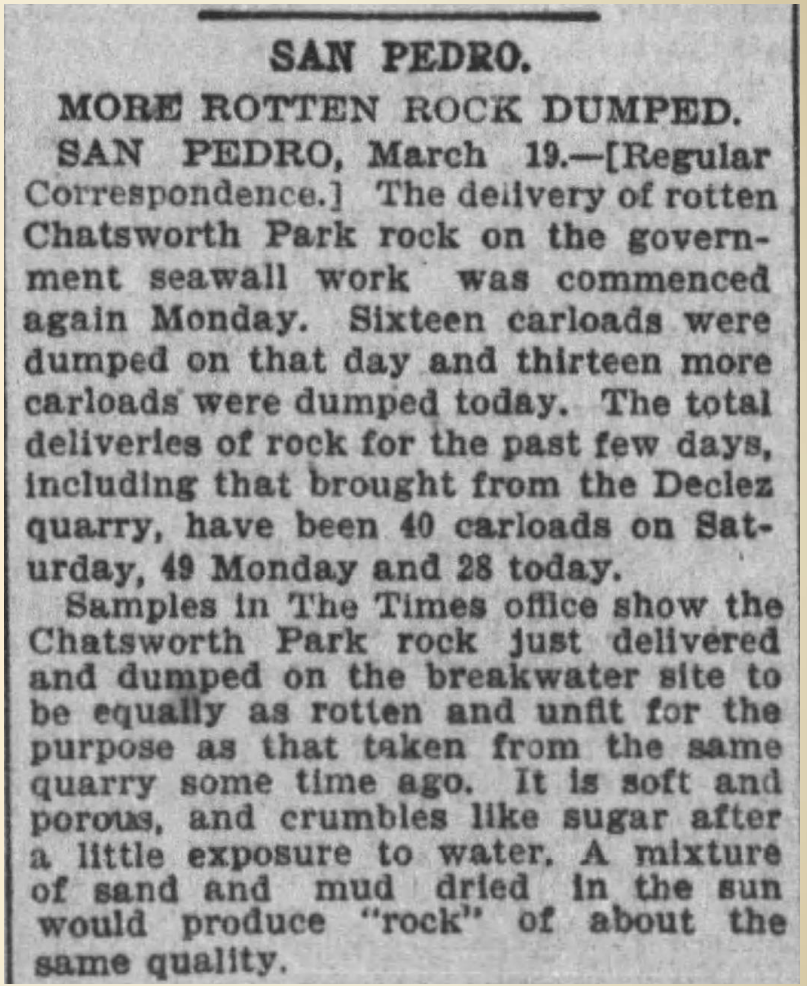
No more rock from the Chatsworth Park quarry will be dumped at San Pedro breakwater until either Capt. Meyler has approved it in person or through some authorized inspector. Hereafter rock for the breakwater will be inspected at the quarries before it is loaded, instead of at San Pedro, as heretofore. These statements were made yesterday by C. R. Eager, president of the California Construction Company, which has the contract for the work at San Pedro.

Mr. Eager stoutly affirmed that no bad rock has been sent to San Pedro, and that very little has been rejected. He says a few pieces on some of the cars have been turned down by the inspector and for that reason some thirty-odd cars of rock from Chatsworth Park, destined for the breakwater have been delivered to the Southern Pacific Railroad for riprapping its tracks. This was not rejected rock, Mr. Eager says, but was sold to the railroad that the company might not fly in the face of public comment on the matter of rotten rock, and thus worry Capt. Meyler during his illness. All the rock now being dumped, Mr. Eager says, comes from the Declez quarry. It amounts to from thirty to fifty carloads a day.

1901-02-23 LATimes

1901-1907 Supplying the San Pedro Breakwater

- In March 1901 another two trainloads from Chatsworth were dumped in San Pedro
- The Times reports “**MORE ROTTEN ROCK DUMPED”.**
- “A mixture of sand and mud dried in the sun would produce “rock” of about the same quality”



SAN PEDRO.

MORE ROTTEN ROCK DUMPED.

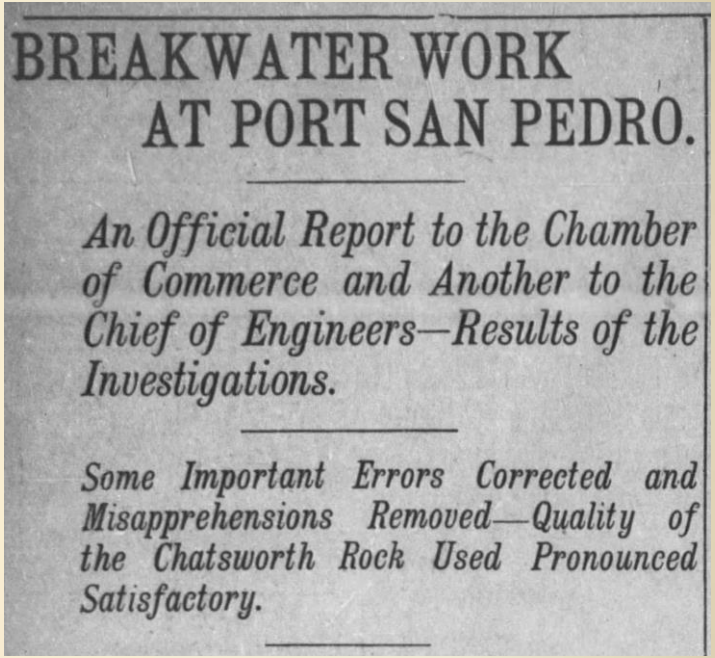
SAN PEDRO, March 19.—[Regular Correspondence.] The delivery of rotten Chatsworth Park rock on the government seawall work was commenced again Monday. Sixteen carloads were dumped on that day and thirteen more carloads were dumped today. The total deliveries of rock for the past few days, including that brought from the Declez quarry, have been 40 carloads on Saturday, 49 Monday and 28 today.

Samples in The Times office show the Chatsworth Park rock just delivered and dumped on the breakwater site to be equally as rotten and unfit for the purpose as that taken from the same quarry some time ago. It is soft and porous, and crumbles like sugar after a little exposure to water. A mixture of sand and mud dried in the sun would produce "rock" of about the same quality.

1901-03-20 LATimes

1901-1907 Supplying the San Pedro Breakwater

- Apr 1901 (LA Times) –A special committee and an exhaustive full page report published in the LA Times determines that the quality of the **“Chatsworth Rock Used is Satisfactory.”**
- The conclusion is that a bad trainload of rock was refused, and procedures are in place to ensure quality rock by inspections on site at the quarry.
- **The sandstone will form the core of the breakwater, and be covered by granite and will be protected from direct action of the seas.**
- The sandstone under seawater will harden and not disintegrate by any chemical action of the salt water.



BREAKWATER WORK AT PORT SAN PEDRO.

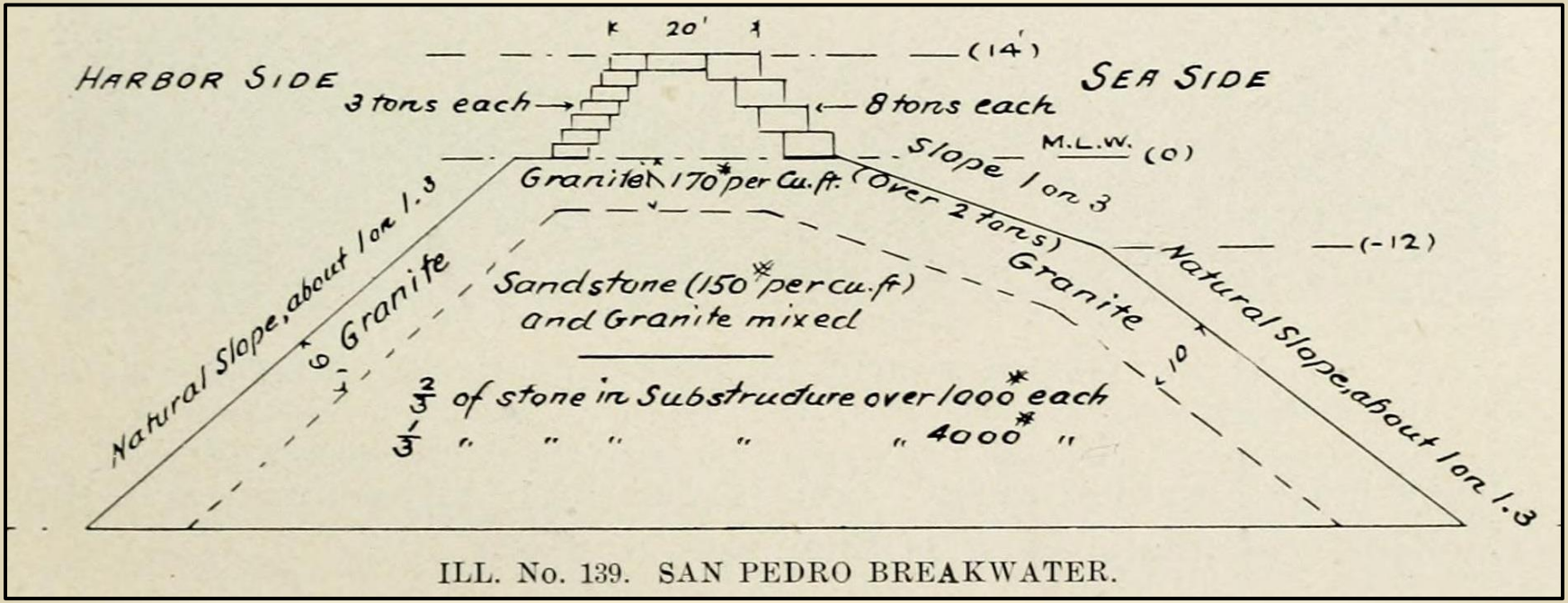
An Official Report to the Chamber of Commerce and Another to the Chief of Engineers—Results of the Investigations.

Some Important Errors Corrected and Misapprehensions Removed—Quality of the Chatsworth Rock Used Pronounced Satisfactory.

1901-04-02 LATimes

1901-1907 Supplying the San Pedro Breakwater

The diagram below shows the Sandstone core is covered with Granite.



ILL. No. 139. SAN PEDRO BREAKWATER.

1906 California State Mining Bureau page 317 diagram

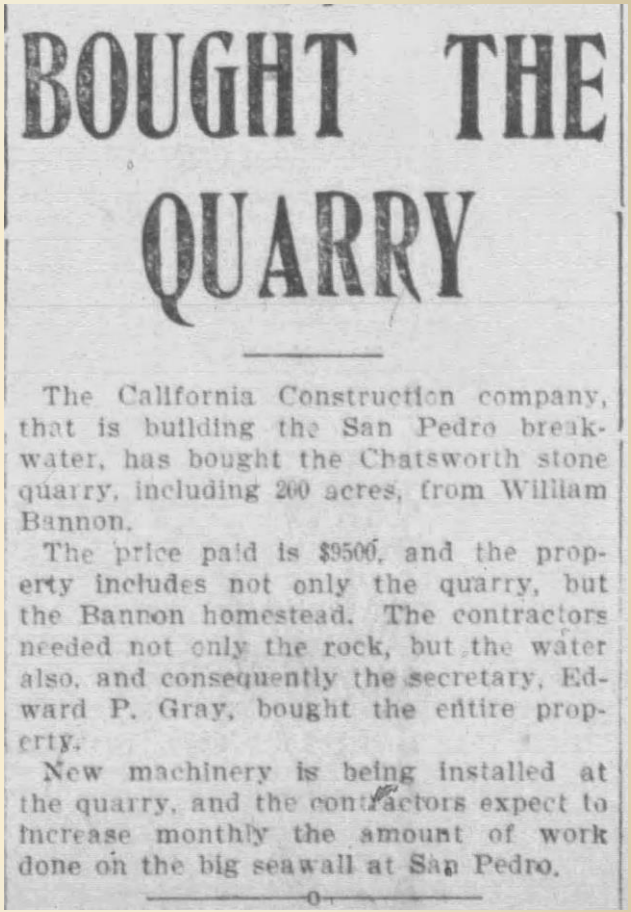
1901-1907 Supplying the San Pedro Breakwater Rock is being shipped successfully

- Apr 1901 (LA Times) –17 carloads of Chatsworth Park rock are added to the breakwater.
- Jun 1901 (LA Times) – The California Construction Company is shipping 16 carloads of sandstone daily, and the amount will soon be doubled.
- **In June 1901, William Bannon sells his quarry and ranch to the California Construction Company and moves to Texas.**

Some Notes on William Bannon selling the Quarry

- June 1901 – Bannon sells his 200 acre ranch for $9,500 to the California Construction Company (CCC)
- In August 1901 his Land Grant is issued on his 160 homestead acres, and is 40 acres quarry parcel. Which was then transferred to CCC.
- In the Joe Bannon interview, he states “the Pacific Railroad Company engaged my father to go to Texas to open up some quarries for them”.
- The July 10, 1901 article below states he is at the Ramona (Spring & 3rd) on his way to San Antonio, Texas

William Bannon and family are at the Ramona en route to San Antonio, Tex., Mr. Bannon having sold his interest in the Chatsworth Park stone quarries, from which the stone is being taken for the San Pedro breakwater.



BOUGHT THE QUARRY

The California Construction company, that is building the San Pedro breakwater, has bought the Chatsworth stone quarry, including 200 acres, from William Bannon.

The price paid is $9500, and the property includes not only the quarry, but the Bannon homestead. The contractors needed not only the rock, but the water also, and consequently the secretary, Edward P. Gray, bought the entire property.

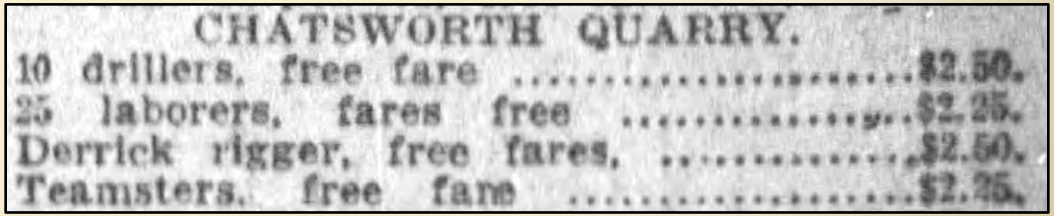
New machinery is being installed at the quarry, and the contractors expect to increase monthly the amount of work done on the big seawall at San Pedro.

1901-06-11 LATimes

1901-1907 Supplying the San Pedro Breakwater Operations Continue

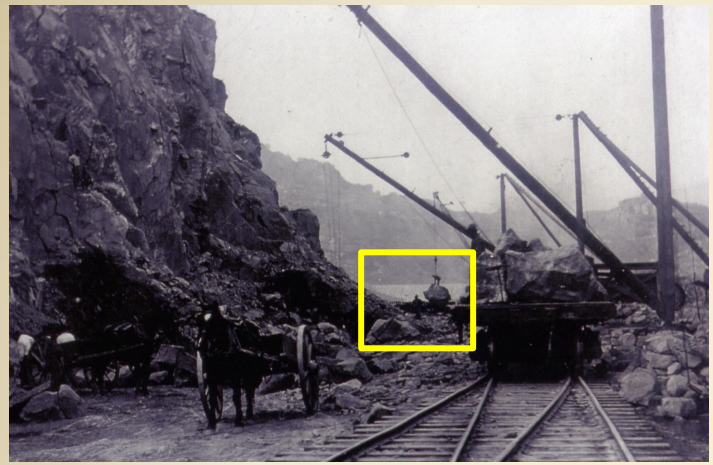
- In Jan 1902, **work is delayed as derricks and railroad tracks** are moved to a more advantageous point in the quarry.
- In 1904, 300,000 tons of rock were delivered to the breakwater.
- In Jan 1905, **The quarry employs fifty men in winter and 75 men in summer months.**
- In July 1907, the **Chatsworth Quarry** is looking for drillers, laborers, a derrick rigger, and Teamsters.

1907-07-21 LATimes
Help Wanted, wages per day


CHATSWORTH QUARRY.
10 drillers, free fare ..... $2.50.
25 laborers, fares free ..... $2.25.
Derrick rigger, free fares, ... $2.50.
Teamsters, free fare ..... $2.25.

- View North at East Quarry face
- Notice switch for empties track
- **Derrick in back is lifting a rock with rock tongs**
- Horizontal white area in middle of picture is the railroad grade for the tunnel tracks

Source: Bruce Petty Collection/California State Railroad Museum



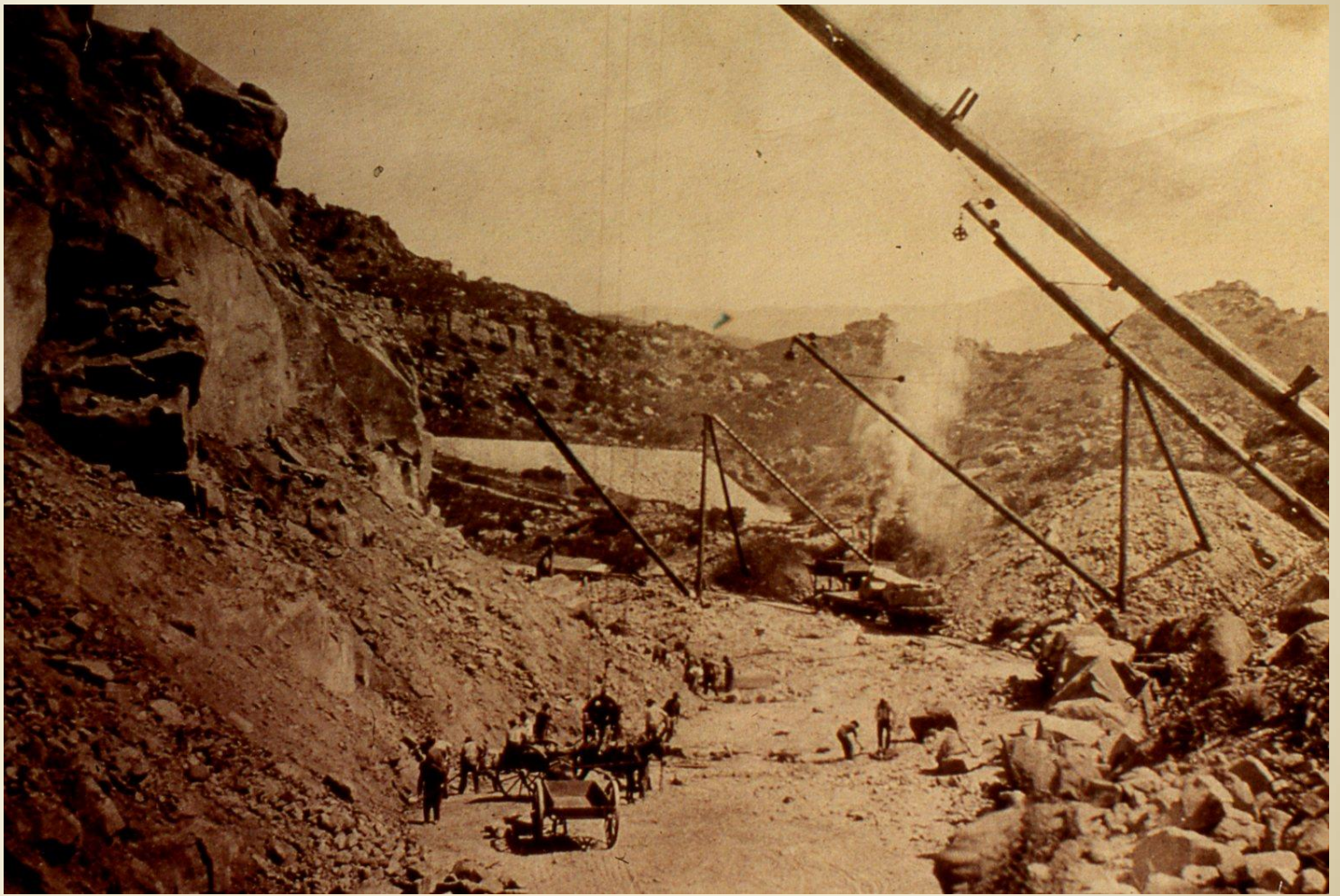
Understanding the Weight of Rocks

From the previous diagram, the substructure of the quarry is made up of rocks as follows: 2/3 over 1,000 lbs, 1/3 over 4,000 lbs

- A sandstone rock 1ft x 1ft x 1ft = 1 cubic foot, and weighs 150 lbs.
- A sandstone rock 2ft x 2ft x 2ft = 8 cubic feet, and weighs 1,200 lbs.
- A sandstone rock 3ft x 3ft x 3ft = 27 cubic feet, and weighs 4,050 lbs.

Horizontal Boom 1

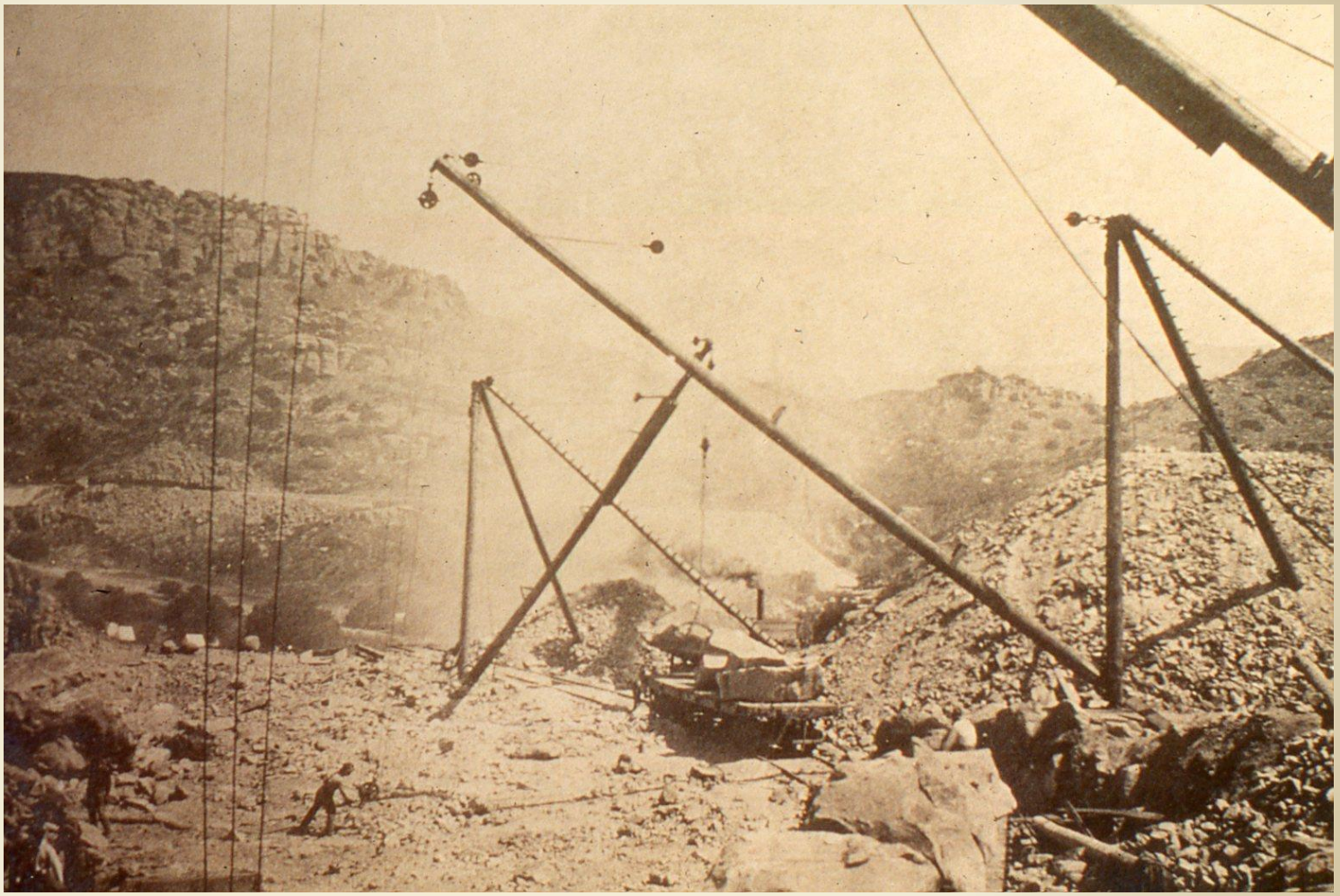
- View North at East Quarry face
- Men with horse-drawn carts are moving debris
- Notice the flat car in the middle being loaded.
- The boom on the last derrick is swung to the left (west) to pick up a rock.



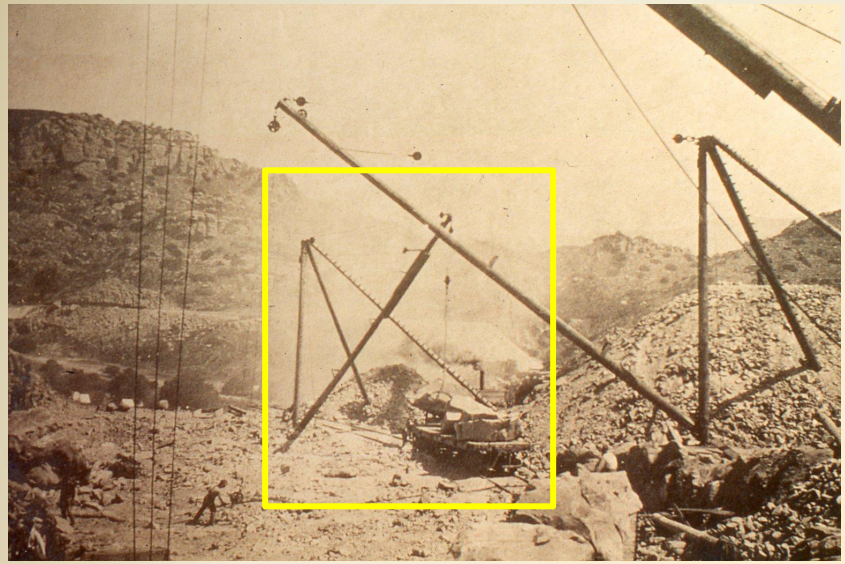
Source: Bruz Bryant Collection

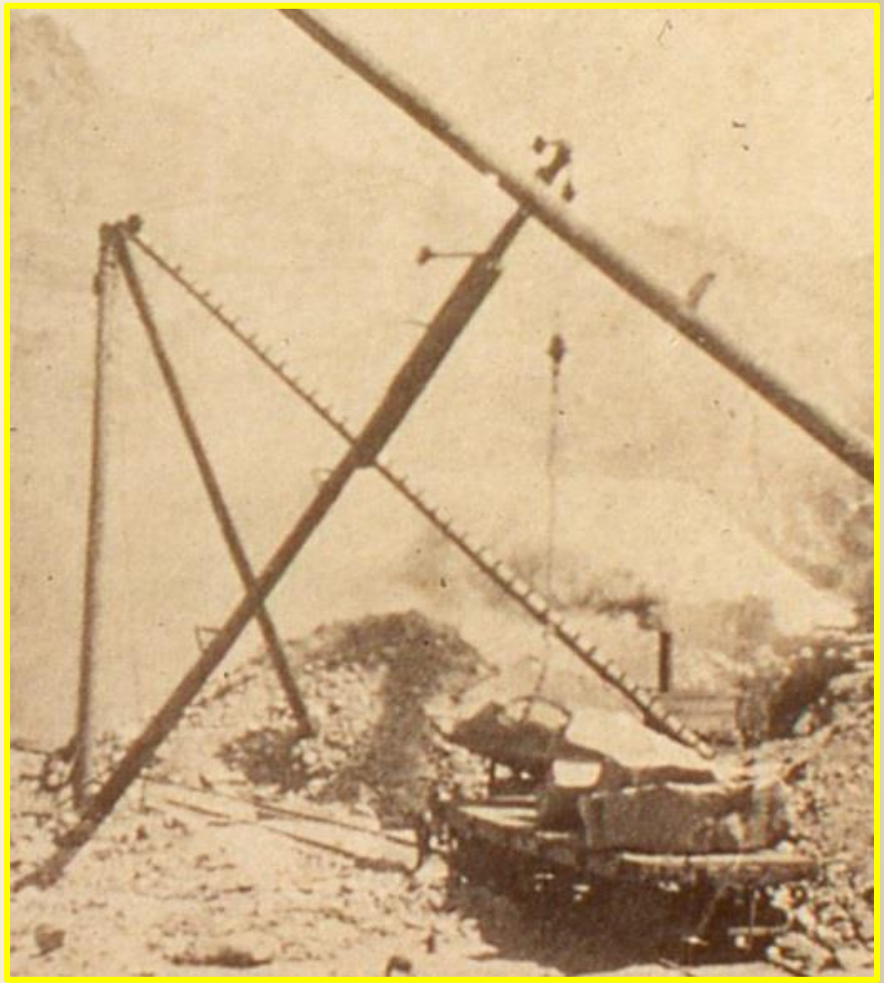
Horizontal Boom 2

- View North at East Quarry face, slightly different angle and closer.
- This photo was taken soon after the previous slide.
- The boom has swung back over the flatcar, and is loading a rock.



Source: Bruz Bryant Collection



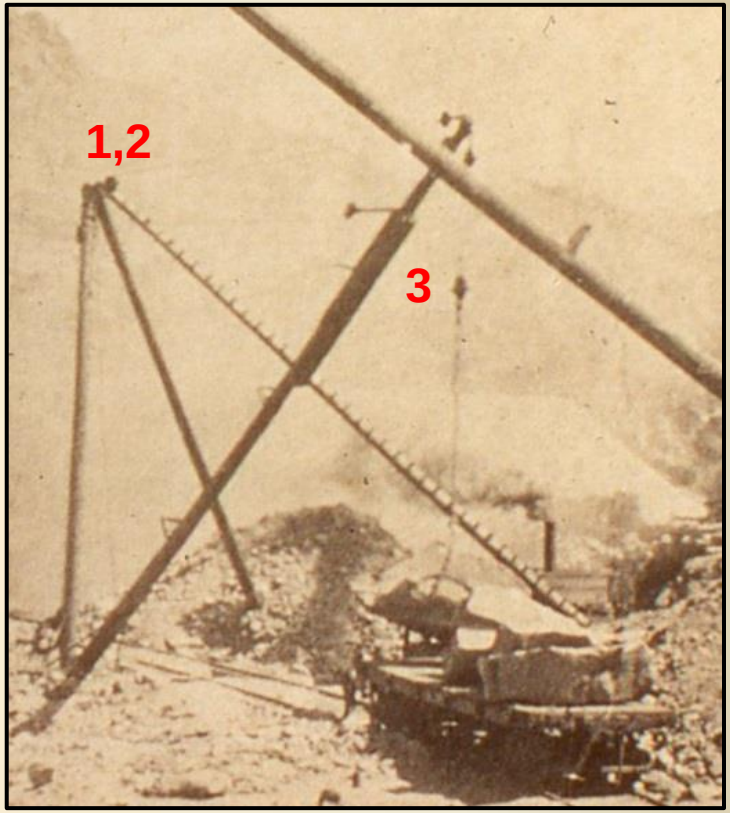


- Notice rock tongs loading large rock on flatcar
- Notice steps on the derrick support pole for the derrick rigger to make pulley and cable adjustments.
- Notice exhaust from steam-powered derrick

Derricks and Pulleys

Derricks – using the previous photo

1. An “A” frame derrick is loading the flatcar. The height at the top of the “A” is called the “mast”.
2. The top of the “A” is supported by “guy lines”, steel cables attached to the ground that support it so it doesn’t fall over.
3. The “boom” is the long pole lifting the rock onto the flatcar. This boom can be moved sideways with other cables or ropes, to pick rocks up from one spot, and move them somewhere else. Described below as a “horizontal sweep”.



Words from a 1905 article (perhaps describing the example above) *The Chatsworth Quarry was recently improved by the installation of a guy line derrick with a horizontal sweep of 100 ft, with an 87 foot mast and a 78 foot boom.*

Derrick Terminology from the 1905 article at right

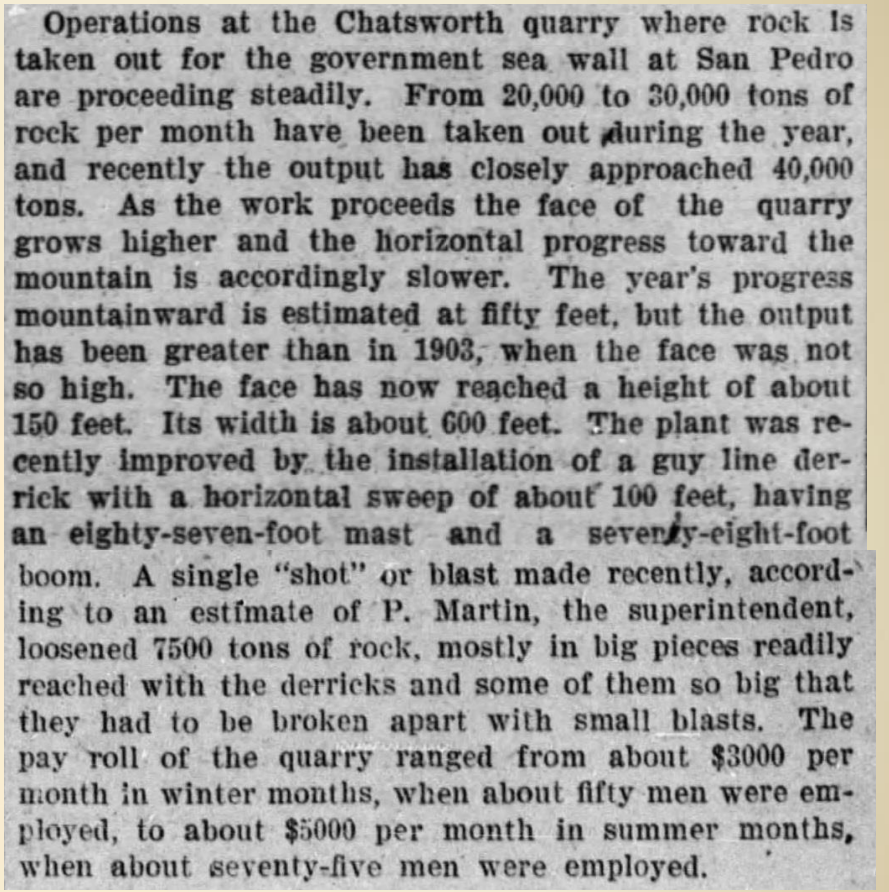
"The plant (Chatsworth Quarry) was recently improved by the installation of a **guy line derrick** with a **horizontal sweep of 100 ft**, with an **87 foot mast** and a **78 foot boom**."

Editors Note: The previous slides Horizontal Boom 1 & 2 are from the Bruz Bryant Graves/Johnson collection.

Bruz was the grandson of Fred and Emma Graves.

Fred and Emma's photos were passed down to Bruz, and he published a book in 2014, "Early Chatsworth California 1859-1959 - Starling (Bruz) and Doris Bryant"

Joe Bannon in his 1974 interview stated "Fred Graves worked for my father in the quarries there at one time".



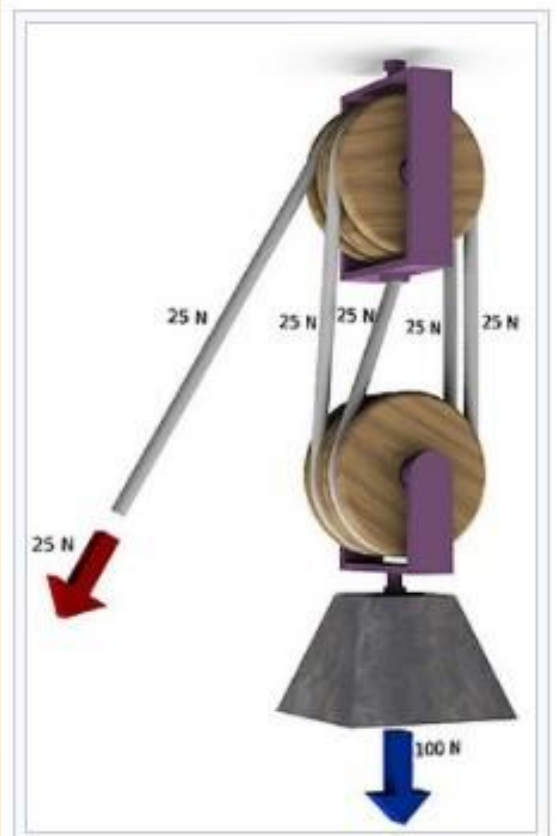
Operations at the Chatsworth quarry where rock is taken out for the government sea wall at San Pedro are proceeding steadily. From 20,000 to 30,000 tons of rock per month have been taken out during the year, and recently the output has closely approached 40,000 tons. As the work proceeds the face of the quarry grows higher and the horizontal progress toward the mountain is accordingly slower. The year's progress mountainward is estimated at fifty feet, but the output has been greater than in 1903, when the face was not so high. The face has now reached a height of about 150 feet. Its width is about 600 feet. The plant was recently improved by the installation of a guy line derrick with a horizontal sweep of about 100 feet, having an eighty-seven-foot mast and a seventy-eight-foot boom. A single "shot" or blast made recently, according to an estimate of P. Martin, the superintendent, loosened 7500 tons of rock, mostly in big pieces readily reached with the derricks and some of them so big that they had to be broken apart with small blasts. The pay roll of the quarry ranged from about $3000 per month in winter months, when about fifty men were employed, to about $5000 per month in summer months, when about seventy-five men were employed.

1905-01-01 LATimes

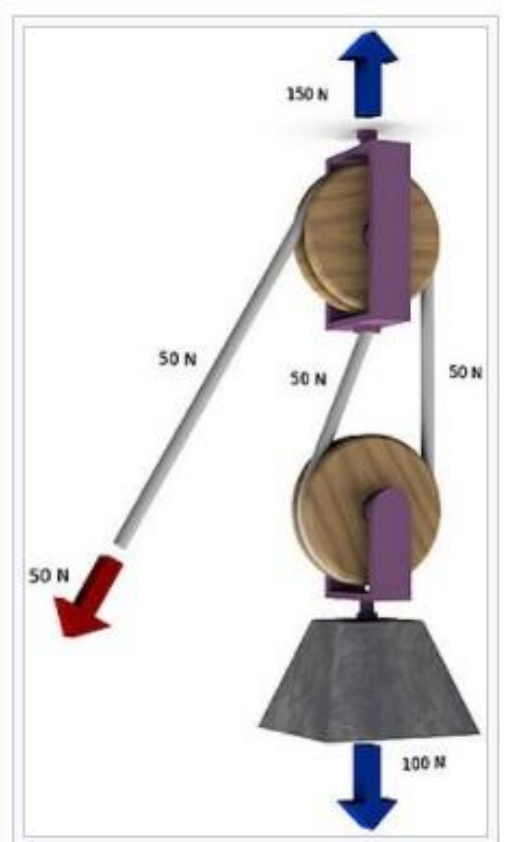
Derricks and Pulleys

Pulleys – Notice the various pulleys on all of the photographs

- Pulleys are used to gain a mechanical advantage in lifting heavy objects.
- On the far right, with two pulleys, if you pull with 50 lbs of force, you can lift a 100 lb object.
- On the near right, with 4 pulleys, if you pull with 25 lbs of force, you can lift a 100 lb object.



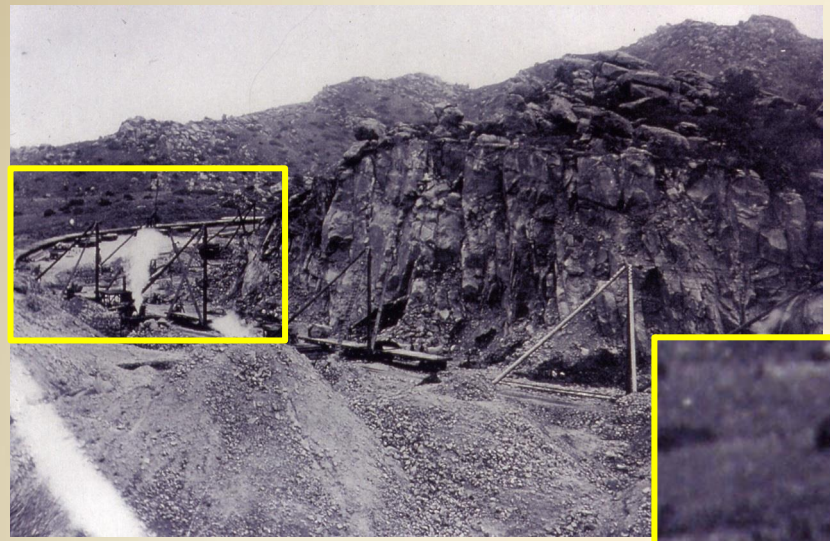
4 to 1 advantage

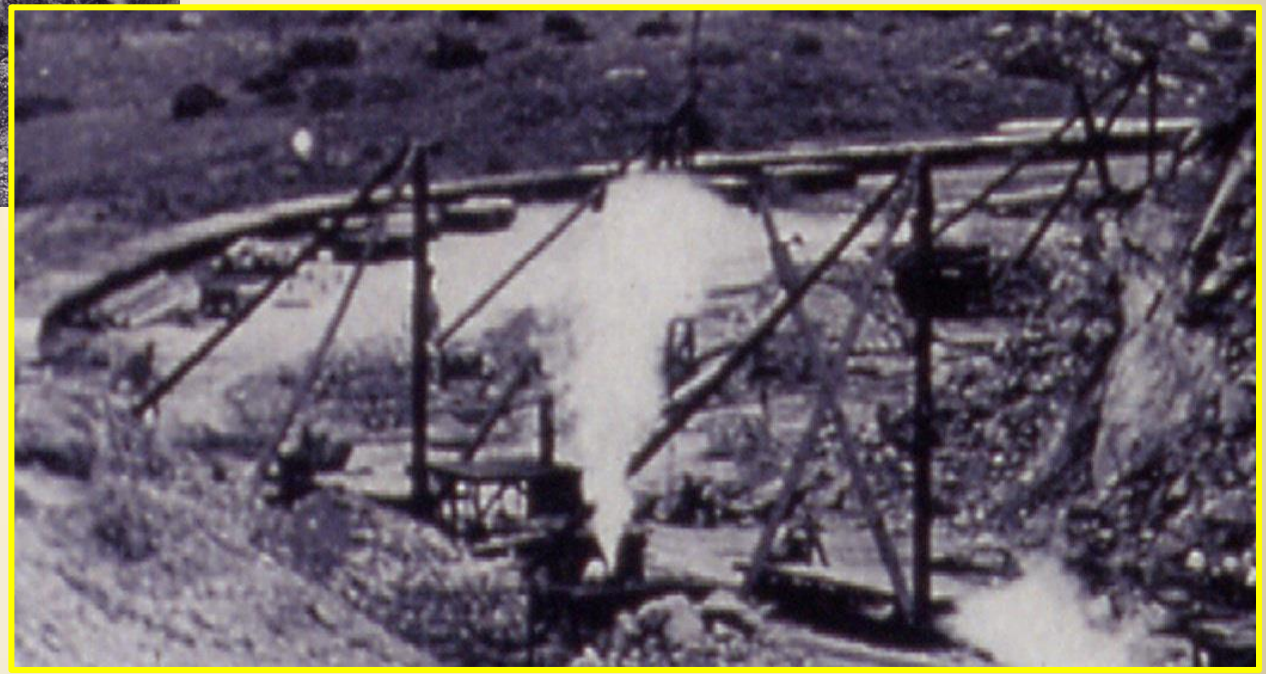


2 to 1 advantage

- View South at East Quarry face
- Notice Empties Track curving west at the South Quarry face

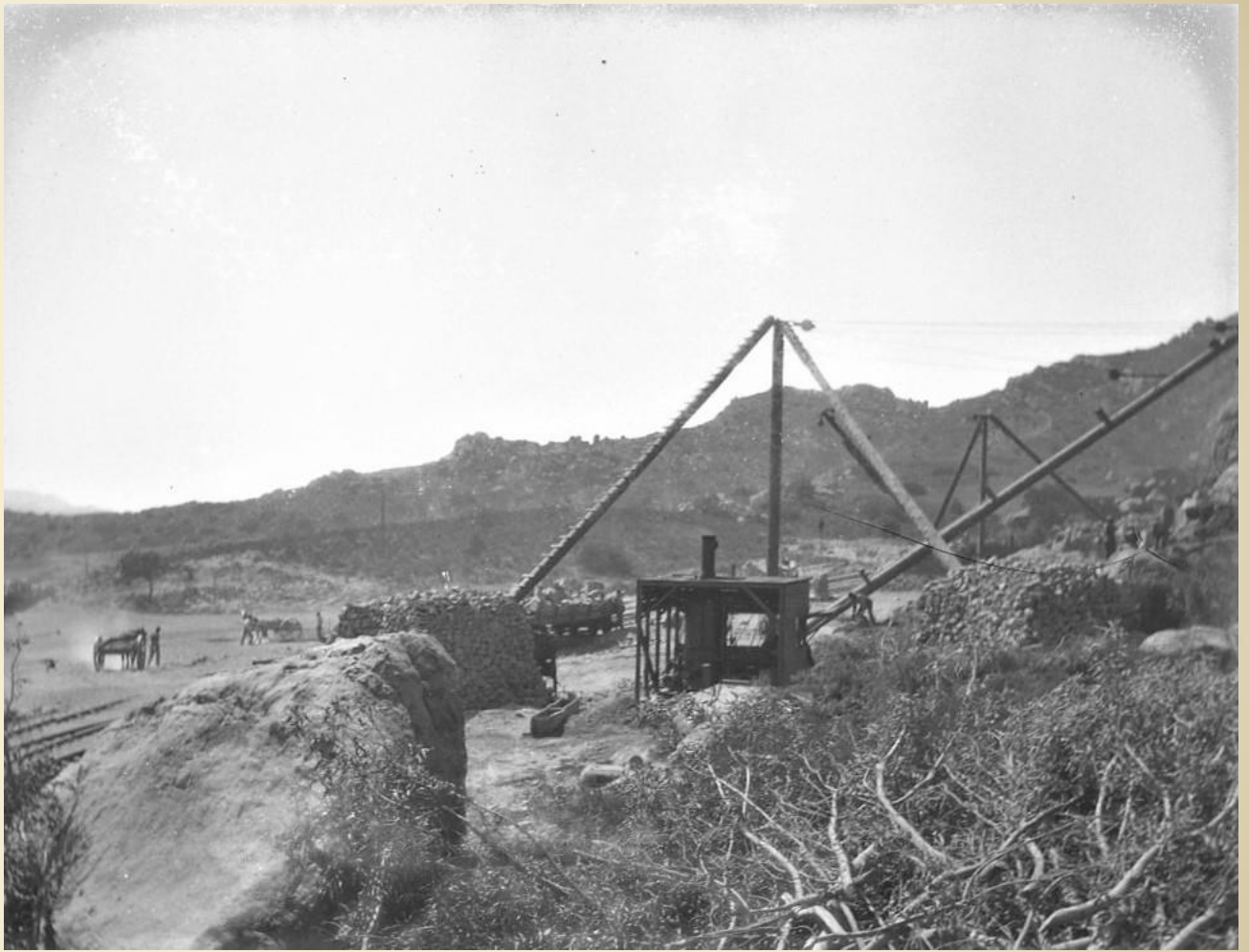
Source: Bruce Petty Collection/California State Railroad Museum





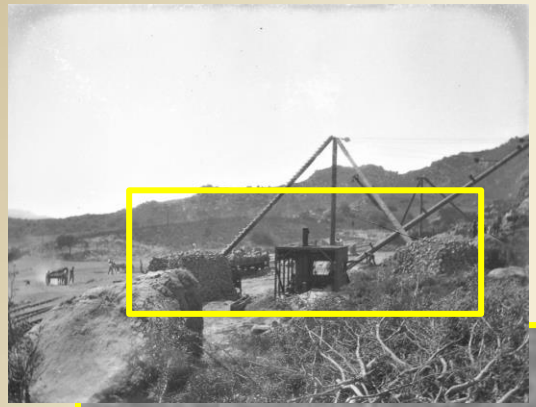
- **Notice empty flatcars lined up on the Empties track…..we count about 21**
- Notice derrick on South Quarry face. That may be anchored to a Ring in Pin to be seen later.

- View South, South Quarry face is to the right.
- The track(s) are the Empties Track (s)? Note: tracks were moved as quarry work progressed.
- The main spur is out of picture to the left, and behind the ridge.
- Notice steam-powered derrick



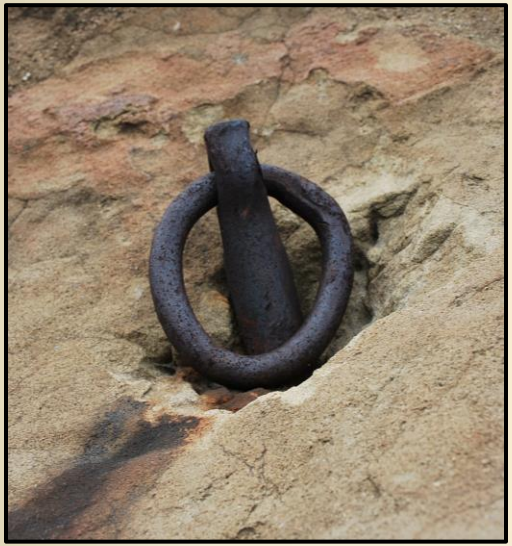
Source: Rob Roche / Roy Carpenter Collection

For more on the Carpenter photos, see our May 2021 Newsletter



- **In the enlarged crop, the derrick poles are buried in stacked rock foundations.**
- Steps are for the derrick rigger to adjust cables and pulleys

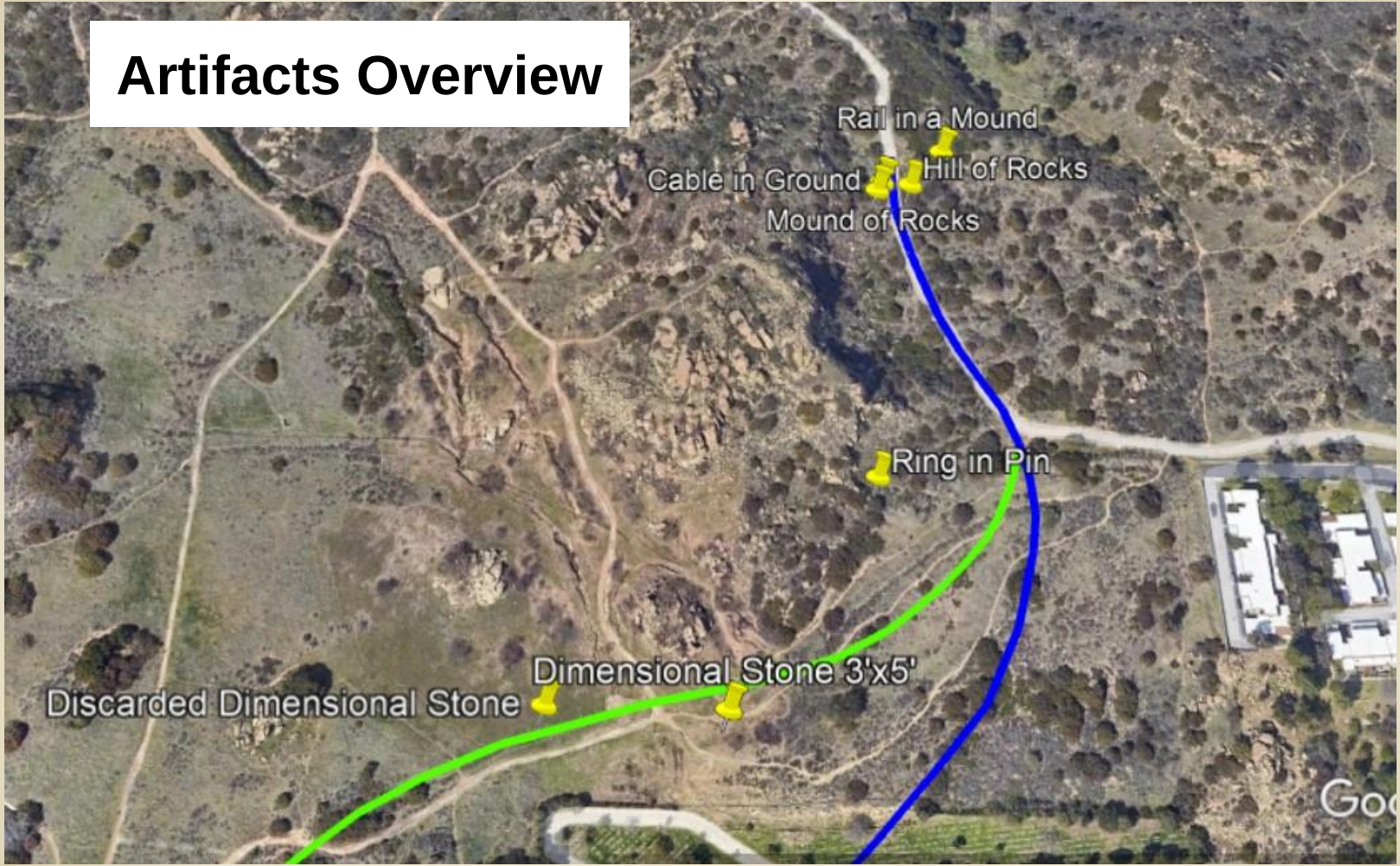
Chatsworth Park Quarry Artifacts

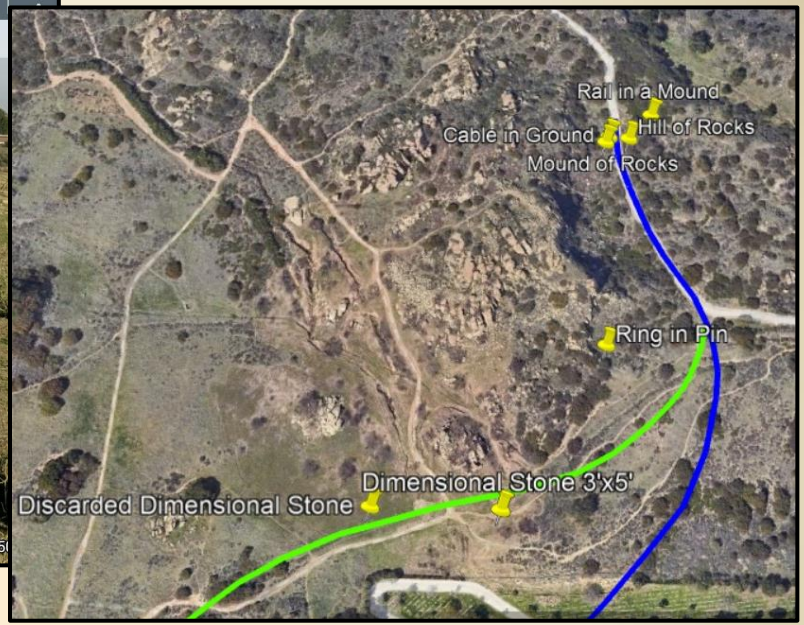


1. Discarded Dimensional Stone
2. Dimensional Stone 3’x5’
3. Ring in Pin
4. Mound of Rocks
5. Cable in Ground
6. Hill of Rocks
7. Rail in a Mound

The longitude and latitude were obtained from the cellphone app **Solocator**, then plotted on Google Earth

Artifacts Overview

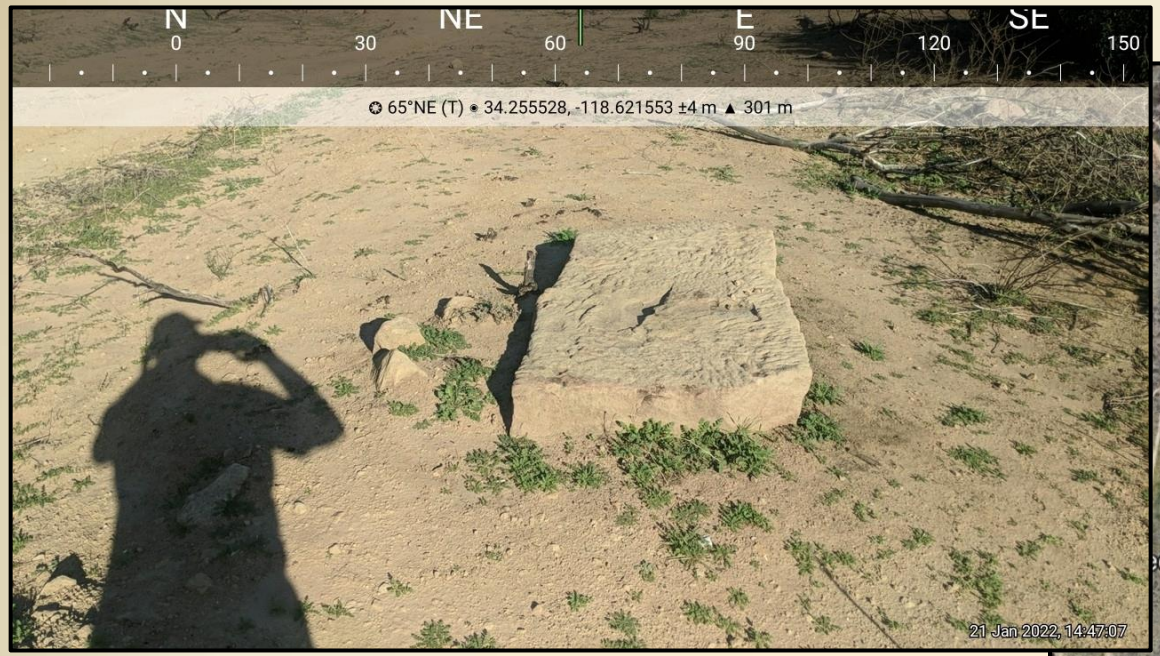


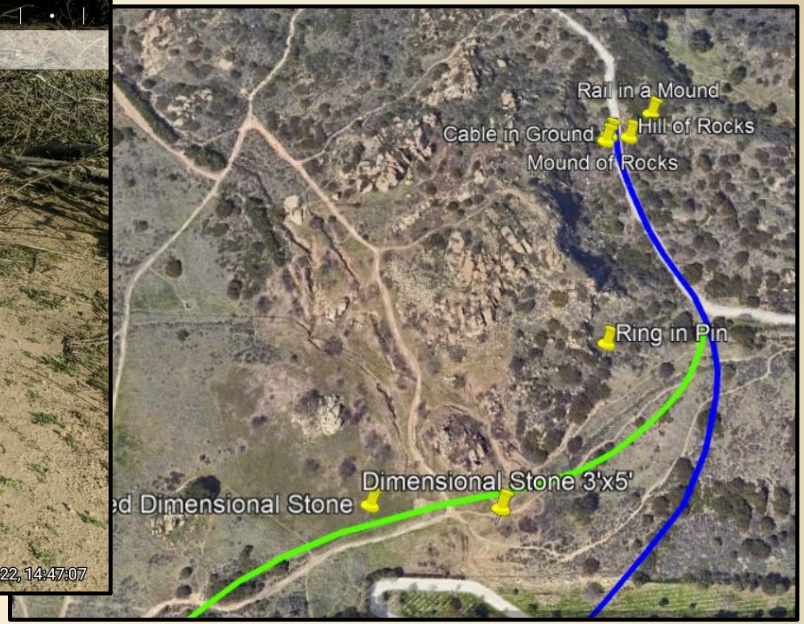


Dave Coscia at a line of **Discarded Dimensional Stone**.

(Ray & Ann Vincent are the shadows)

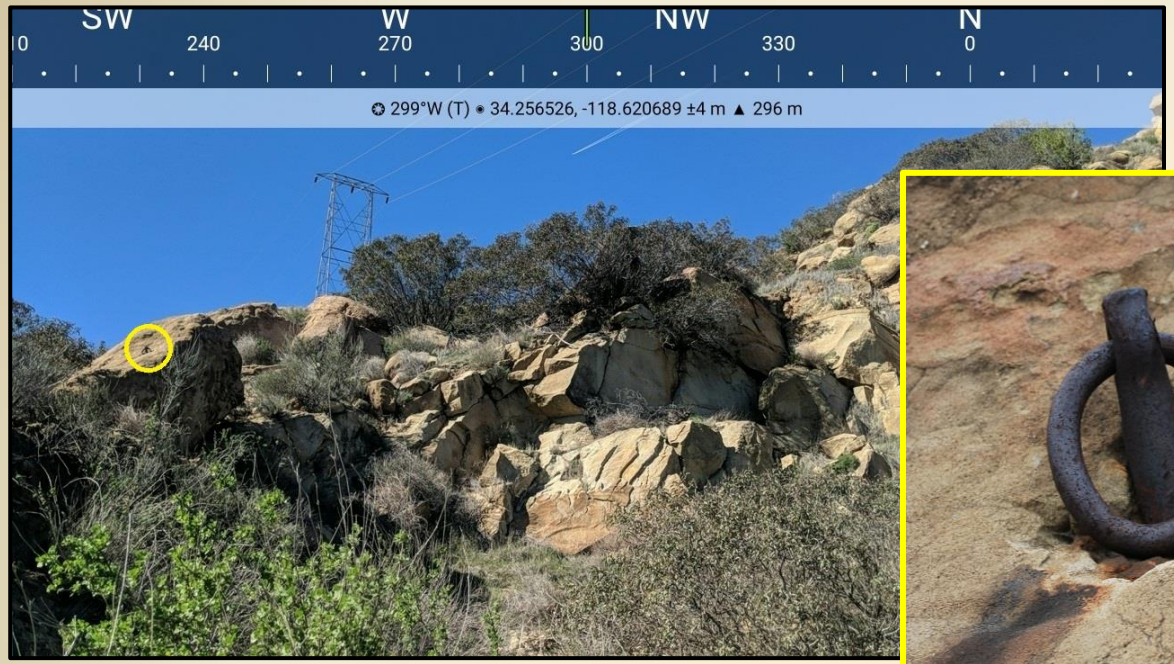
The stones are in a straight line, which follows our extrapolated empties track.





Dimensional Stone 3’ x 5’

We didn’t have a theory as to why this is here



Ring in Pin

Circled in yellow above, on the South Quarry face.

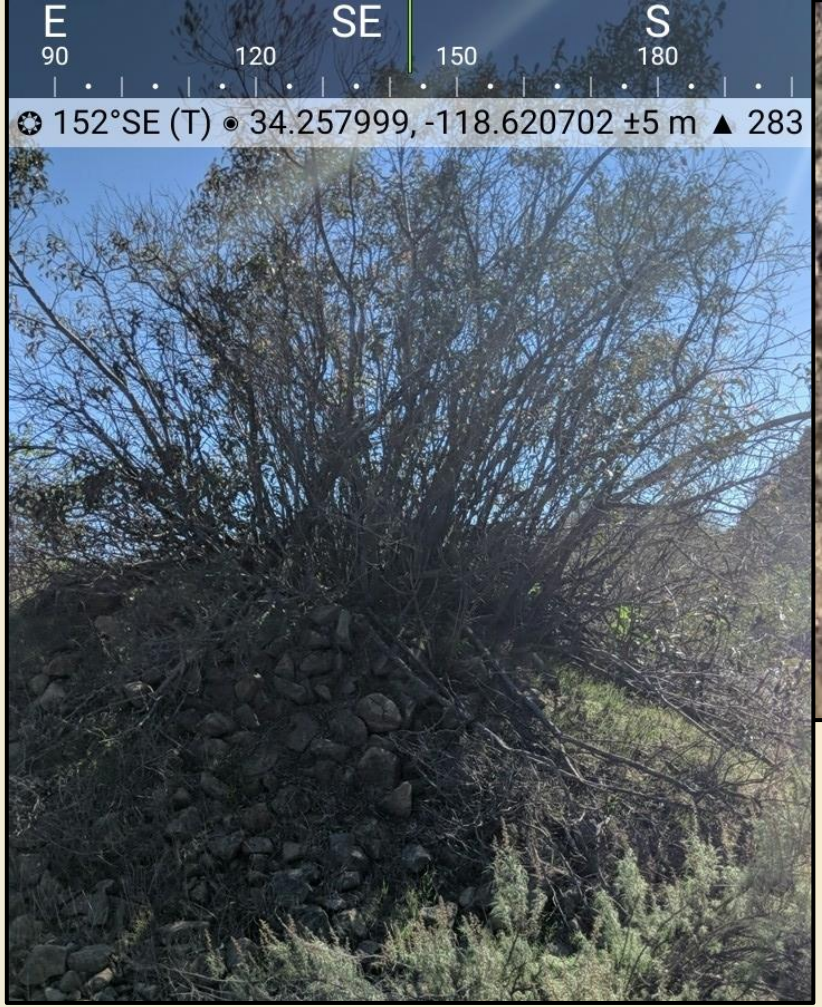
The ring would have been used for attaching derrick cables.

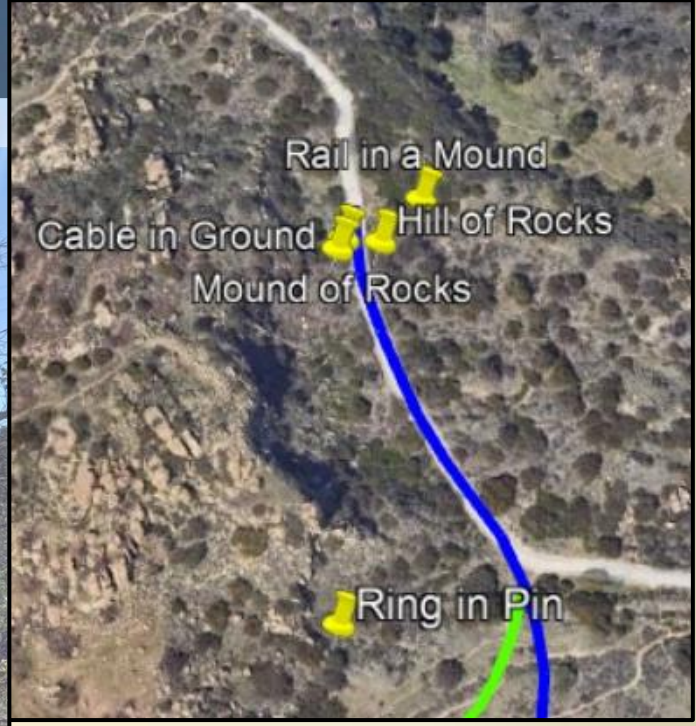
Size estimate: pin is 8 inches tall and about 1.5 inches wide

Mound of Rocks

Just west of Powerhouse Road.

The mound may have braced a derrick support.



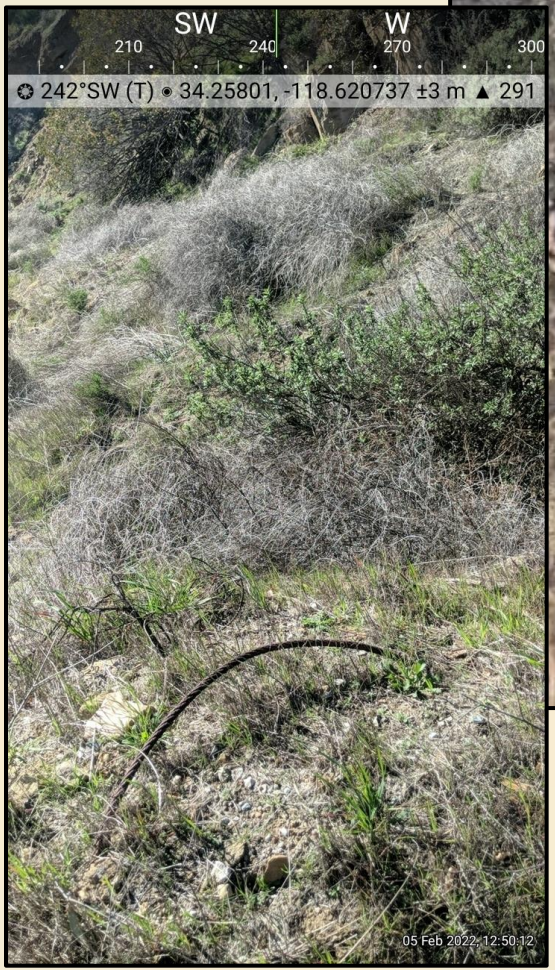


Cable in Ground

Just west of Powerhouse Road.

Maybe ¾” or 1”.

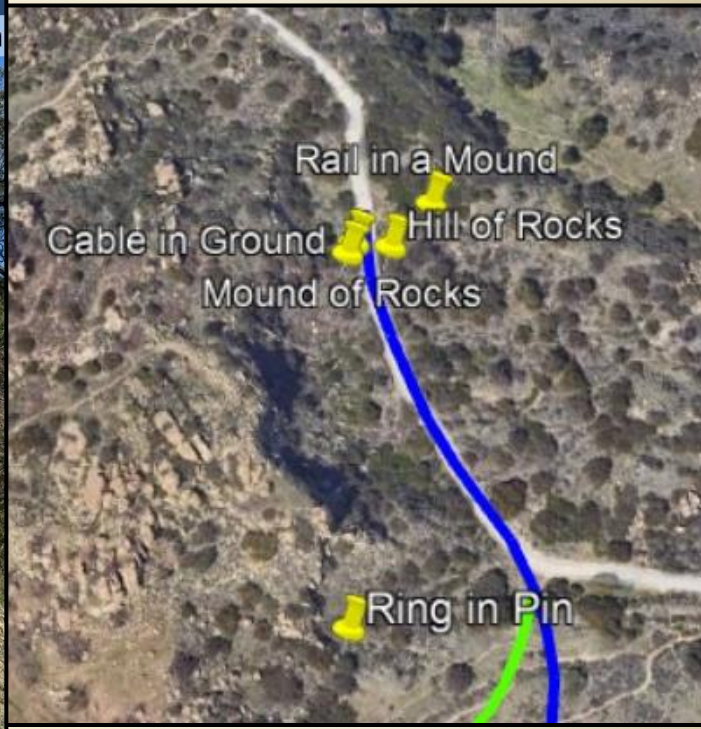
Note that ¾” steel cable can carry a safe load of 10,000 lbs.



Hill of Rocks

Just east of Powerhouse Road.

May have braced a derrick support or just discarded debris.



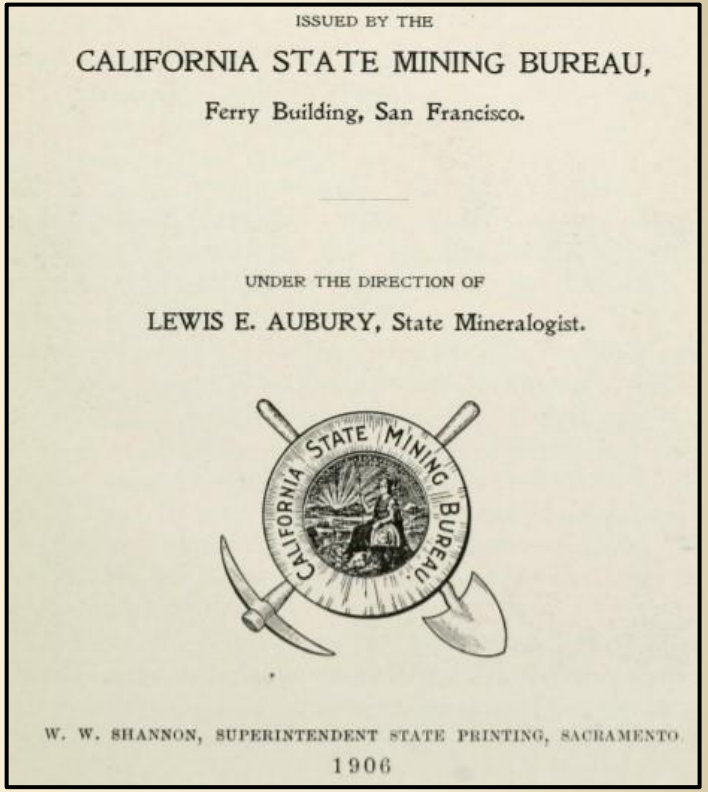
Rail in a Mound

About 30 feet east of Powerhouse Road.

The track is a lighter gauge than standard rail, which made it easier to adjust the location as needed.

Other “Chatsworth Formation” Sandstone Quarries in/near Chatsworth

1. Chatsworth Park Quarry – Bannon Quarry
2. Charlton Quarry – Stoney Point
3. Southern Pacific Quarry - east end of middle tunnel
4. Santa Susana Quarry (Dillon Quarry) - Smith Road in Simi Valley


ISSUED BY THE

CALIFORNIA STATE MINING BUREAU,

Ferry Building, San Francisco.

UNDER THE DIRECTION OF

LEWIS E. AUBURY, State Mineralogist.

CALIFORNIA STATE MINING BUREAU

W. W. SHANNON, SUPERINTENDENT STATE PRINTING, SACRAMENTO.

1906

Source: 1906 State Mining Bureau

Chatsworth Park Quarry, 200 acres

- When quarried for dimension stone it can be split regularly along the run, but when quarried for large blocks, as is done in this quarry for the San Pedro breakwater, it breaks along uneven surfaces.
- It resists exposure to the atmosphere satisfactorily
- The sandstone under seawater will harden and not disintegrate by any chemical action of the salt water.

Source: 1906 State Mining Bureau pg 128

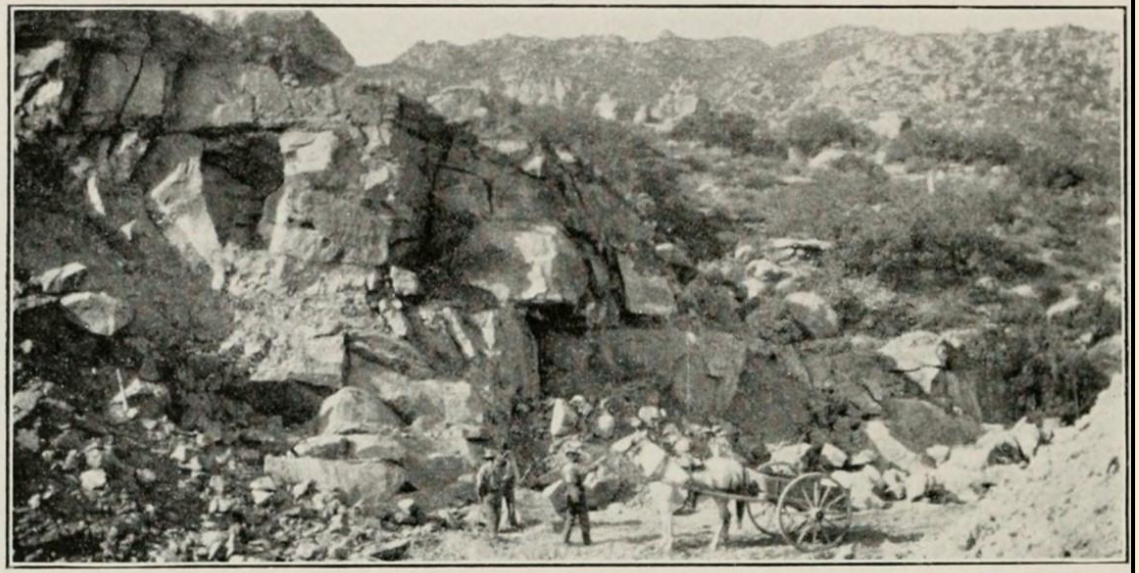
LOS ANGELES COUNTY.

Chatsworth Park Quarry, 200 acres in Sec. 13, T. 2 N., R. 17 W. S. B. M.; California Construction Company, 324 East Market street Los Angeles, owner. About 1½ miles west of Chatsworth, a station on the Southern Pacific Railroad. The quarry is connected by a branch line with the main road.

The stone is rather heavily bedded arkose sandstone. Near the surface it has a tawny color, but when fresh is of a bluish-gray color. This weathering takes place to irregular depth, but the line of demarcation between the weathered and fresh stone is very distinct. The stone is moderately fine-grained. When quarried for dimension stone it can be split regularly along the run, but when quarried for large blocks, as is done in this quarry for the substructure of the San Pedro breakwater, it breaks along uneven surfaces. It resists exposure to the atmosphere satisfactorily. Near Garvanza is a church (Holy Angels), built in 1887, of the tawny-colored stone, showing no signs of deterioration. The Courthouse in San Bernardino, the Public Library in Santa Ana, and the California Club in Los Angeles are all built of the tawny variety of this sandstone, taken from near the surface. At the land end of the Southern Pacific Railroad pier at Santa Monica some of this sandstone has been used for rip-rap. Below the level of high tide, where moistened by seawater, it is quite hard, but above high-water line the exposed stone is rather soft and somewhat disintegrated.

It may be mentioned here that extensive comparative tests made by the U. S. Engineer Corps, at Humboldt Bay, California, have proven that sandstone under seawater, or regularly moistened by sea tide water, will harden and not disintegrate by any chemical action of the salt water, but that the same sandstone exposed to the atmosphere on the shore will disintegrate. If slightly moved by the wave action, the stone will suffer some abrasion.

Chatsworth Park Quarry

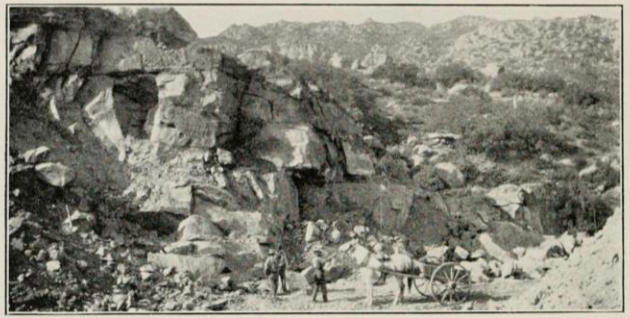


ILL. No. 60. CHATSWORTH PARK SANDSTONE QUARRY, LOS ANGELES COUNTY.

- The quarry is equipped with four steam derricks, using oil as fuel.

Source: 1906 State Mining Bureau pg 130

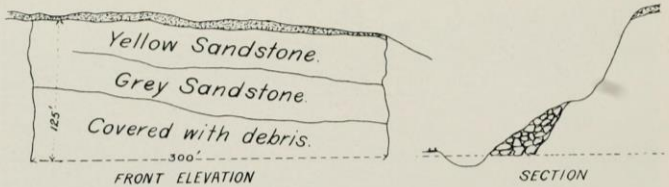
The blocks that form the San Pedro breakwater are broken down by churn-drilling (three men to the drill) rows of holes, having an average depth of 25 feet, with 20 feet face, and blasting with black powder, tamping solid without an air chamber above the charge. It is estimated that of the rock thus broken down: 20 per cent is débris, under 100 pounds, thrown over the dump; 15 per cent is small blocks, from 100 to 1000



ILL. No. 60. CHATSWORTH PARK SANDSTONE QUARRY, LOS ANGELES COUNTY.

pounds; 20 per cent is blocks from 1000 to 4000 pounds; and 45 per cent large blocks over 4000 pounds. (See sketch of front elevation of quarry.)

The quarry is equipped with four steam derricks, using oil as fuel.

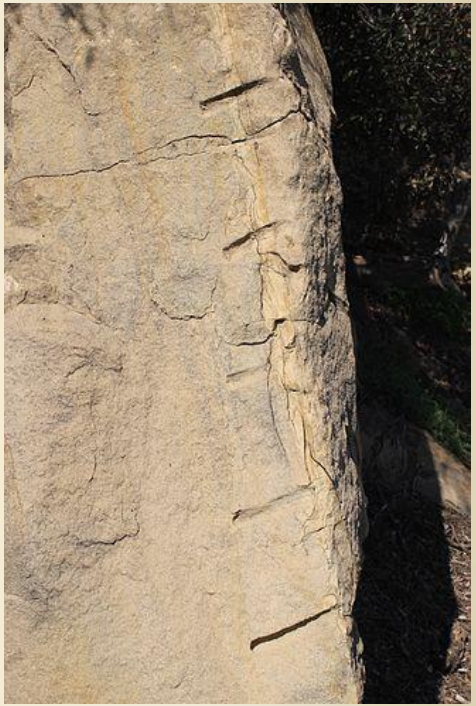


ILL. No. 61. CHATSWORTH PARK SANDSTONE QUARRY, LOS ANGELES COUNTY.

Capacity, from 500 to 700 tons per day of random stone of large size for San Pedro breakwater. About fifty men are employed.

Charlton Quarry at Stoney Point

- In 1877 George Charlton homesteaded 137 acres in 1899, which included Stoney Point
- In 1906 George's son Oliver had a quarry on "Sugar Loaf Hill". The mine was on the east side of Stoney Point, see photo at right.
- The William Bannon family came back to Chatsworth in 1906, leased a cabin on the Charlton homestead, and quarried some rock. *(source: 1974 Bannon/Hinkston interview)*



O. A. Charlton, in Sec. 7, T. 2 N., R. 16 W., S. B. M., on Sugar Loaf Hill, has quarried some boulders of sandstone similar in character to that in the other quarries near Chatsworth.

Source: 1906 State Mining Bureau pg 130

Ed. Note: refined sugar was once sold in a "sugar loaf", a conical mass or loaf, resembling Stoney Point.

Source: Wikipedia, Stoney Point Remnants of Charlton Quarry

Southern Pacific Railroad Quarry – East end of Middle Tunnel

- Tunnel 27, North of Chatsworth Park North
- Produces dimension stone.

Southern Pacific Railroad Quarry, in Sec. 12, T. 2 N., R. 17 W., S. B. M., near the eastern end of the middle tunnel; leased to C. Bertelson, 1307 West Ninth street, Los Angeles; produces dimension stone similar in character to the Chatsworth sandstone. The stone is broken down by hand-drilling and blasting with black powder and split with wedges. It is rather coarse-grained, heavily bedded. The gray stone has not been reached in this quarry. The quarry is equipped with a derrick, moved by horse-power. Capacity, 25 tons (one carload) per day. Nine men are employed.

Source: 1906 State Mining Bureau pg 131

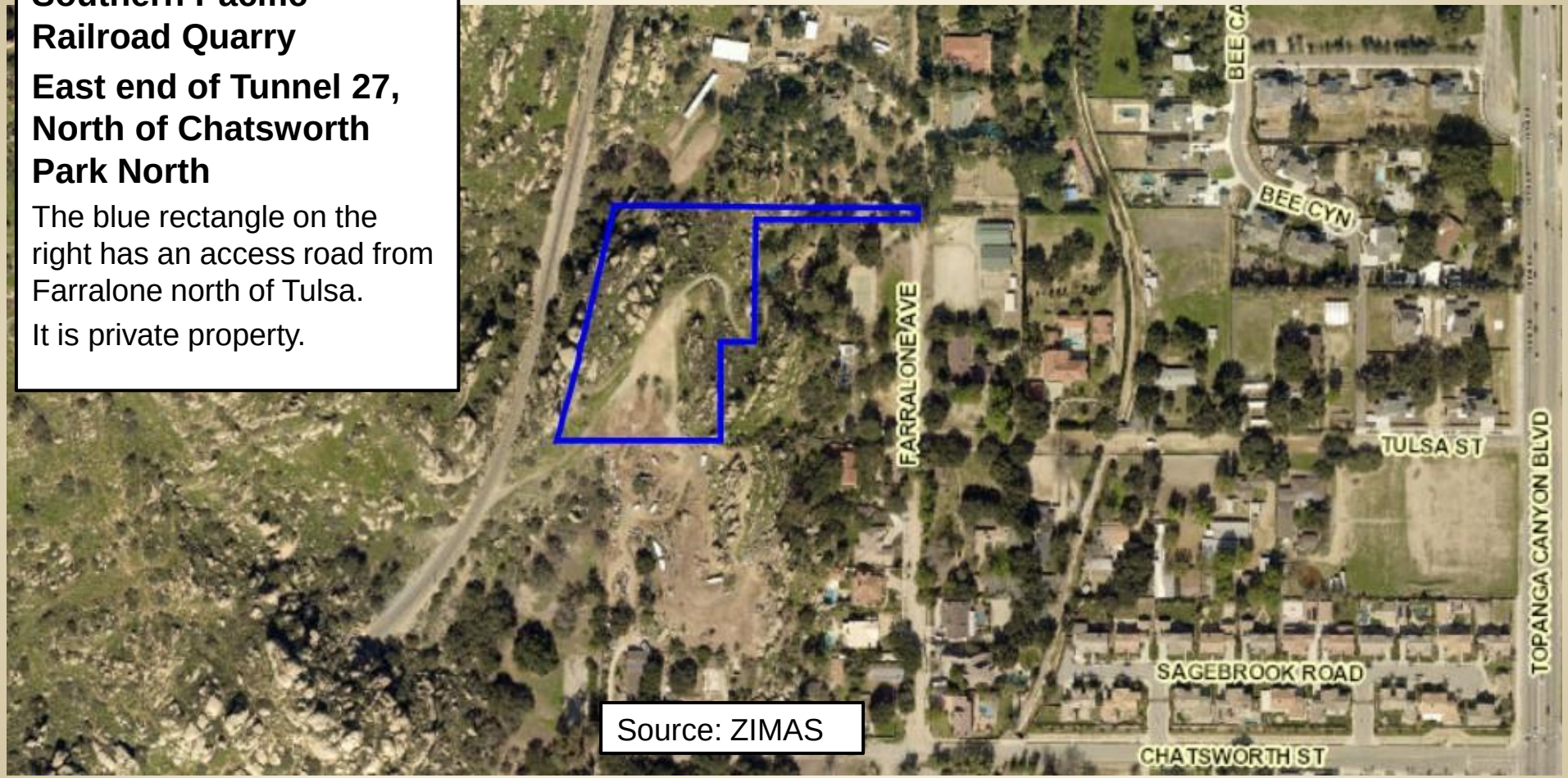
- The quarry is equipped with a derrick, moved by horse-power. Capacity, 25 tons (one carload) per day. Nine men are employed.
- There is an access road from Farralone north of Tulsa, see map on next page. It is private property.

Southern Pacific Railroad Quarry

East end of Tunnel 27, North of Chatsworth Park North

The blue rectangle on the right has an access road from Farralone north of Tulsa.

It is private property.



Source: ZIMAS

Santa Susanna Quarry, Simi Valley

- Owned by Southern Pacific Railroad
- Used by the railroad for riprap, and also mixed with oil for pavements.

Santa Susanna Quarry; Southern Pacific Railroad Company, owner. In Sec. 16, T. 2 N., R. 17 W., S. B. M. The material is similar to that of the Chatsworth Park quarry, Los Angeles County. It is used by the railroad company in several places along its roadbed as rip-rap, and it is also mixed with oil for pavements.

Source: 1906 State Mining Bureau pg 327

- **Also known as the old Dillon quarry** north of the railroad and a few hundred feet east of Kuehner Drive in Simi Valley. The Bannon's also operated the quarry **where the baseball diamond is in the Santa Susana Park for the Southern Pacific Railroad Company.** *(source: Rancho Simi Trail Blazers Sept 2003 newsletter)*
- Per Joe Bannon, The Bannon family had a 10 year lease on the Dillon Quarry after they returned from Texas.

A final Bannon chapter

- In 1906, Bannon was called down to where the Colorado River had broken through into the Salton Sea. Southern Pacific hired him to blast rock that went into the levee used to redirect the runaway Colorado River back into it's channel.
- William Bannon returned from Texas in 1906 to direct quarrying operations for Oliver Charlton near Stoney Point. Oliver was the son of George Charlton, who homesteaded the 137 acres that include Stoney Point.
- William Bannon died in 1910, and his wife Marie remarried in 1912 to William Morris, a road builder per the 1920 census. (see appendix for death certificate and naturalization documents)
- In the 1910 Census, the Bannon family is living in Simi Valley on Los Angeles St, probably at/near the Dillon Quarry. Marie is cook and running the boarding house at the quarry, her two oldest sons James and Edward are working at the quarry.
- Marie and William Morris are living at the De la Ossa adobe in 1912-1919. During this time, her son Joseph Bannon experiences the filming of Jack and the Beanstalk at the Miranda's.
- In the 1920 census, they are in Long Beach. In the 1940 census, Marie is living with her daughter Minnie in Alhambra.

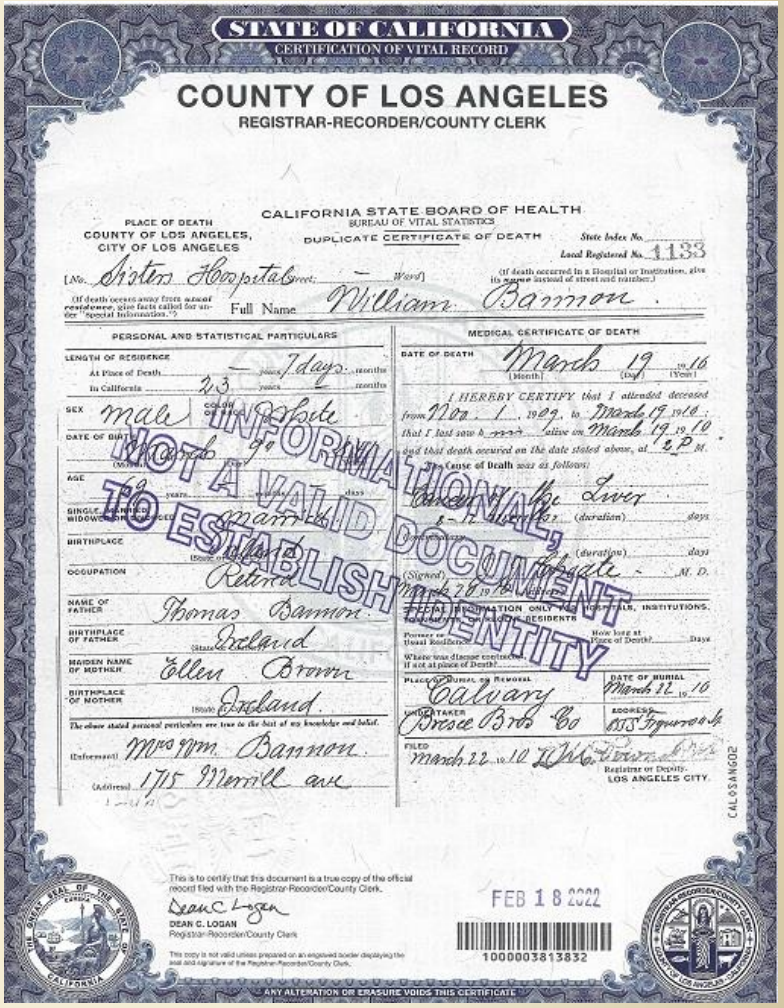
Sources/Acknowledgements

- Special Thanks to David Coscia, for his expertise in explaining the logical quarry operations and layout.
- A 2018 book “Southern Pacific in the San Fernando Valley 1876-1996” by David Coscia.
- The 1974 interview with William Bannon’s son, Joe Bannon, by Janice Hinkston, founder of the SSMPA and FPSSM
- The 2007 Santa Susana Pass State Historic Park Cultural Resources Inventory Historic Review by Alexander Bevil
- Southern Pacific Railroad photographs of Quarry operations from Railroad Historian Bruce Petty.
- Additional photographs from Chatsworth resident Bruz Bryant (Graves/Johnson family)
- Recent facebook quarry photographs from our May 2021 Newsletter and Rob Roche
- UC Santa Barbara aerials
- Carl Nelman, Dillon Quarry Photos

- Prepared by Ann and Ray Vincent, February 2022

Appendix – William Bannon

- March 19th, 1910 Death Certificate
- In California 23 years (came to California in 1887 from Texas)
- Died of cancer of the Liver 8-12 mos.
- Died at Sisters Hospital Los Angeles


STATE OF CALIFORNIA
CERTIFICATION OF VITAL RECORD

COUNTY OF LOS ANGELES
REGISTRAR-RECORDER/COUNTY CLERK

CALIFORNIA STATE BOARD OF HEALTH
BUREAU OF VITAL STATISTICS
DUPLICATE CERTIFICATE OF DEATH

PLACE OF DEATH
COUNTY OF LOS ANGELES,
CITY OF LOS ANGELES

State Index No.
Local Registered No. 1133

[No.] Sisters Hospital [Street] — [Ward]
(If death occurred in a Hospital or Institution, give its name instead of street and number.)
(If death occurs away from usual residence, give facts called for under "special information.")
Full Name William Bannon

PERSONAL AND STATISTICAL PARTICULARS

LENGTH OF RESIDENCE
At Place of Death 7 days
In California 23 years

SEX male
COLOR OR RACE white
DATE OF BIRTH [Month] [Day] [Year]
AGE 63 years
SINGLE, MARRIED, WIDOWED, OR DIVORCED married
BIRTHPLACE [State or Country] Ireland
OCCUPATION Retired
NAME OF FATHER Thomas Bannon
BIRTHPLACE OF FATHER [State or Country] Ireland
MAIDEN NAME OF MOTHER Ellen Brown
BIRTHPLACE OF MOTHER [State or Country] Ireland

The above stated personal particulars are true to the best of my knowledge and belief.
[Informant] Mrs Wm. Bannon
[Address] 1715 Merrill ave

MEDICAL CERTIFICATE OF DEATH

DATE OF DEATH March 19 1910
[Month] [Day] [Year]

I HEREBY CERTIFY that I attended deceased from Nov 1 1909 to March 19 1910;
that I last saw h[illegible] alive on March 19 1910
and that death occurred on the date stated above, at 2 P M.

The Cause of Death was as follows:
Cancer of the Liver
8-12 mos. (duration) days
(duration) days
(Signed) Wm. Bannon M. D.
March 20 1910
[Address]

FOR INFORMATION ONLY IN HOSPITALS, INSTITUTIONS.
IF NOT LOS ANGELES RESIDENTS
Former or Usual Residence
How long at Place of Death? Days
Where was disease contracted, if not at place of Death?
PLACE OF BURIAL OR REMOVAL Calvary
DATE OF BURIAL March 22 1910
UNDERTAKER Inslee Bros Co
ADDRESS 655 Figueroa
FILED March 22 1910
Registrar or Deputy
LOS ANGELES CITY

CAL9SANG02

INFORMATIONAL, NOT A VALID DOCUMENT TO ESTABLISH IDENTITY

This is to certify that this document is a true copy of the official record filed with the Registrar-Recorder/County Clerk.
Dean C. Logan
DEAN C. LOGAN
Registrar-Recorder/County Clerk
This copy is not valid unless prepared on an engraved border displaying the seal and signature of the Registrar-Recorder/County Clerk.

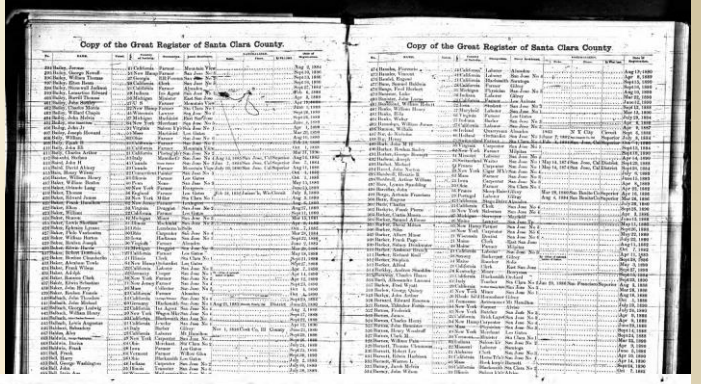
FEB 18 2022

1000003813832

ANY ALTERATION OR ERASURE VOIDS THIS CERTIFICATE

Appendix – William Bannon

- 1888-09-06 Voter Registration Santa Clara County
- William Bannon born in Ireland
- Naturalized 1863 NY City Circuit court



9

Copy of the Great Register of Santa Clara County.

No.	NAME.	Voted.	Age.	Country of Nativity.	Occupation.	Local Residence.	NATURALIZED. Date.	Place.	By What Court	Date of Registration.
474	Banales, Florencio		24	California	Laborer	Almaden				Aug 17, 1880
475	Banales, Vincent		31	California	Laborer	San Jose No 4				Apr 8, 1889
476	Bandel, Eugene		21	California	Blacksmith	Saratoga				Sept 15, 1890
477	Bane, Samuel Baldwin		28	California	Farmer	Gilroy				Sept 16, 1880
478	Bangs, Fred Herbert		31	Michigan	Physician	San Jose No 3				Aug 10, 1890
479	Banister, Luke		36	Indiana	Laborer	Gilroy				Mar 22, 1890
480	Banister, John Lucas		33	California	Farmer	Los Animas				June 12, 1890
481	Bankhead, William Robert		22	Iowa	Student	San Jose No 3				Sept 12, 1888
482	Banks, William Henry		27	Maryland	Laborer	San Jose No 1				Mar 13, 1890
483	Banks, Rola		66	Virginia	Farmer	Los Gatos				July 29, 1884
484	Banks, Walter		27	Indiana	Barber	San Jose No 3				Apr 6, 1888
485	Bannahan, William James		27	California	Laborer	San Jose No 3				Apr 9, 1887
486	Bannon, William		46	Ireland	Quarryman	Almaden	1863	N Y City	Circuit	Sept 6, 1888
487	Bar, de Nicholas		46	Holland	Orchardist	San Jose No 5	June 7, 1882	San Joaquin Co, Cal	Superior	July 8, 1884
488	Bar, Henry		25	Switzerland	Farmer	Sta Clara No 1	Feb 4, 1884	San Jose, Cal	Superior	Oct 1, 1886
489	Barb, John M H		30	Virginia	Carpenter	San Jose No 5				