A wide-angle landscape photograph of the Antelope Valley. The foreground and middle ground consist of rolling hills covered in dense, low-lying vegetation with a mix of green, yellow, and orange-brown hues, suggesting a dry or autumnal environment. In the distance, a range of blue-toned mountains is visible under a clear, pale blue sky. The text is overlaid on the left side of the image.

The Kitanemuk, members of the Shoshonean Linguistic Group lived in the area between Fairmont and Antelope Buttes:

“one of the largest and most significant archaeological sites in the Antelope Valley”

- Source:
http://www.avim.parks.ca.gov/people/ph_kitanemuk.shtml

The Kitanemuk, like other groups on the mountain margins of the Mojave Desert, lived in permanent winter villages of 50 to 80 people or more. These people dispersed into smaller mobile gathering groups during the late spring, summer, and fall months. The smaller groups made use of temporary camps for relatively short times, visiting different "environmental niches" as the important food-producing plants in them became ready to harvest.

The Kitanemuk spoke a language that appears to have been a dialect of Serrano, which was spoken by groups located as far distant as modern Yucca Valley and Twenty-nine Palms, east of the San Bernardino Mountains.

Historic

Farming and Ranching Families:

Godde

Munz (east of the Reserve)

Russell's (Ruined stone house
near rock quarry – photo on
next page)



View looking north from North Poppy Loop trail – arrow shows rock quarry and approximate location of stone ruins of the Russell's house.

Quarry

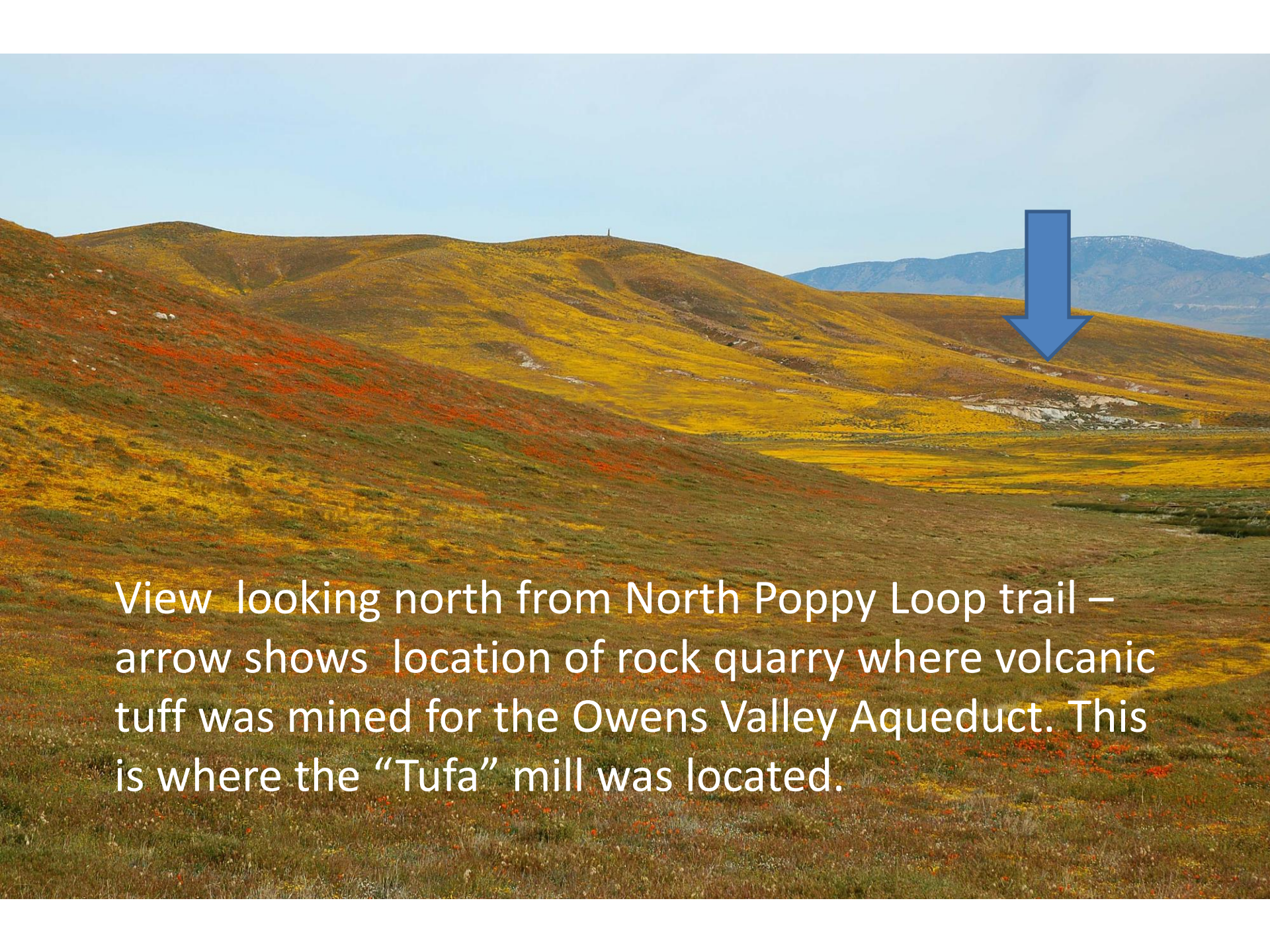
- “Tufa Mill”
- Mined “tuff”
- Used to build the Owens Valley or Los Angeles Aqueduct

Los Angeles (Owens Valley) Aqueduct

- The Los Angeles Aqueduct system comprising the Los Angeles Aqueduct (Owens Valley aqueduct) and the Second Los Angeles Aqueduct, is a water conveyance system operated by the LA Department of Water and Power.
- Designed by engineer and LADWP director, [William Mulholland](#), the system delivers water from the [Owens River](#) in the Eastern Sierra Nevada Mountains to [Los Angeles, California](#).
- The project began in 1908 with a budget of \$24.5 million. With 5,000 workers employed for its construction, the Los Angeles Aqueduct was completed in 1913.
- The catastrophic failure of the St. Francis Dam, in 1928, flooded the Santa Clarita Valley and parts of Ventura County (resulting in public disgrace for the city of Los Angeles and the end of Mulholland's career).

The Fairmont "Tufa" Mill

- **Builders of the Los Angeles (or Owens Valley) Aqueduct** mined tuff from a quarry on Fairmont Butte and may have used it as a concrete additive.
- Tuff (from the Italian tufo) is a type of rock consisting of consolidated volcanic ash ejected from vents during an volcanic eruption.
- Tuff is sometimes called tufa, particularly when used as construction material, although tufa also refers to a quite different rock that is a type of limestone.
- Tuff is common in Italy, and the Romans used it for many buildings and bridges. Tuff from Rano Raraku was used by the Rapa Nui people of Easter Island to make the vast majority of their famous moai statues.



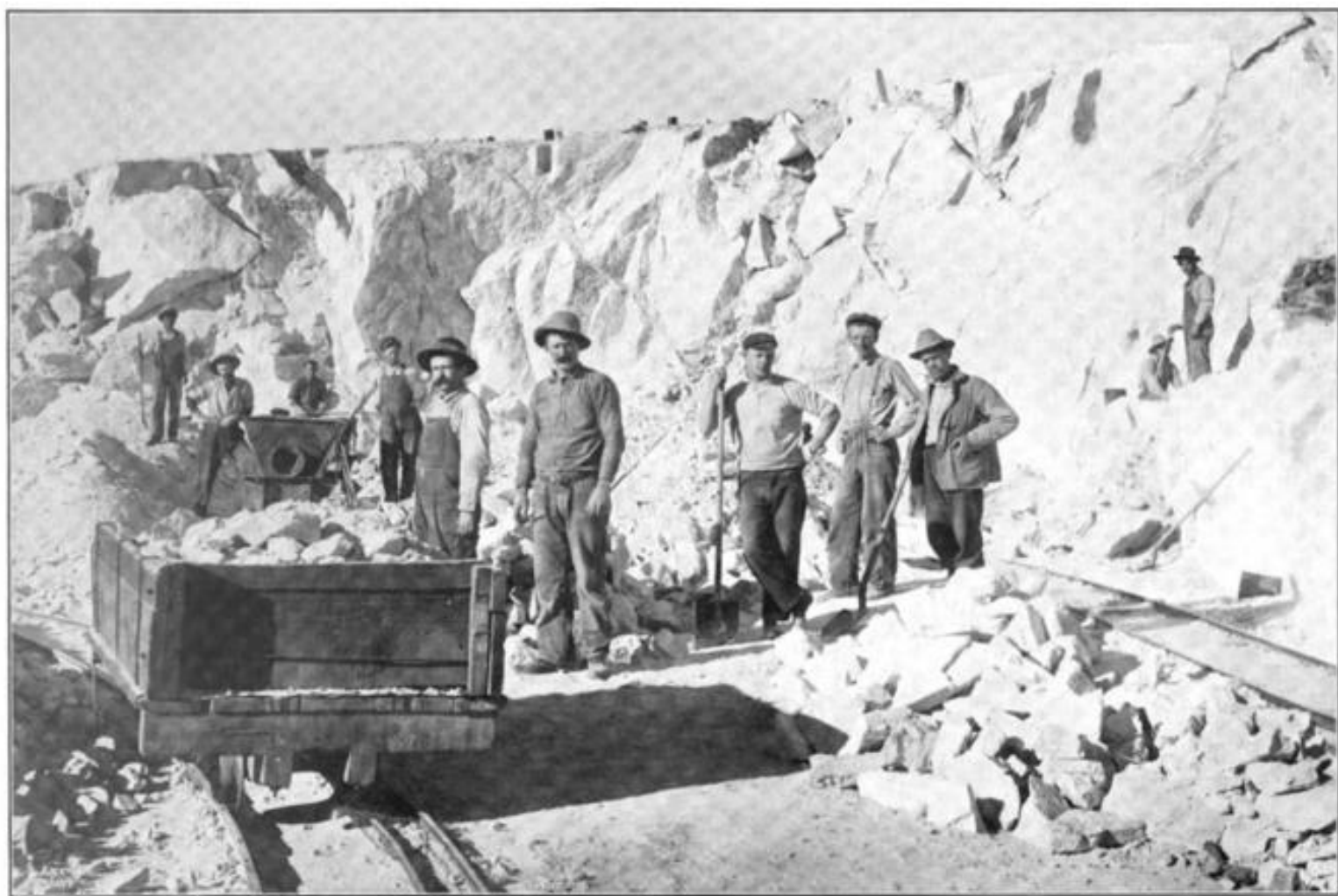
View looking north from North Poppy Loop trail – arrow shows location of rock quarry where volcanic tuff was mined for the Owens Valley Aqueduct. This is where the “Tufa” mill was located.

"Tufa Mill" 1909



Quarry 1912





TUFA QUARRY AT FAIRMONT

Elizabeth Lake Tunnel

- In 1907 William Mulholland, superintendent of the Los Angeles Department of Water and Power, started work on the Elizabeth Tunnel for transporting water in the Los Angeles Aqueduct from Owens Valley to Los Angeles.
- The water traveled across Western Antelope Valley running south near the western border now the Poppy Reserve
- Less than a half a mile east of Lake Hughes, the five-mile (8 km)-long tunnel is 285 feet (87 m) under the ridge and valley formed by the San Andreas Fault.
- The tunnel was driven from both ends. The north portal is at Fairmont Reservoir and the south in Bear Canyon (now Portal Canyon) near Green Valley.
-

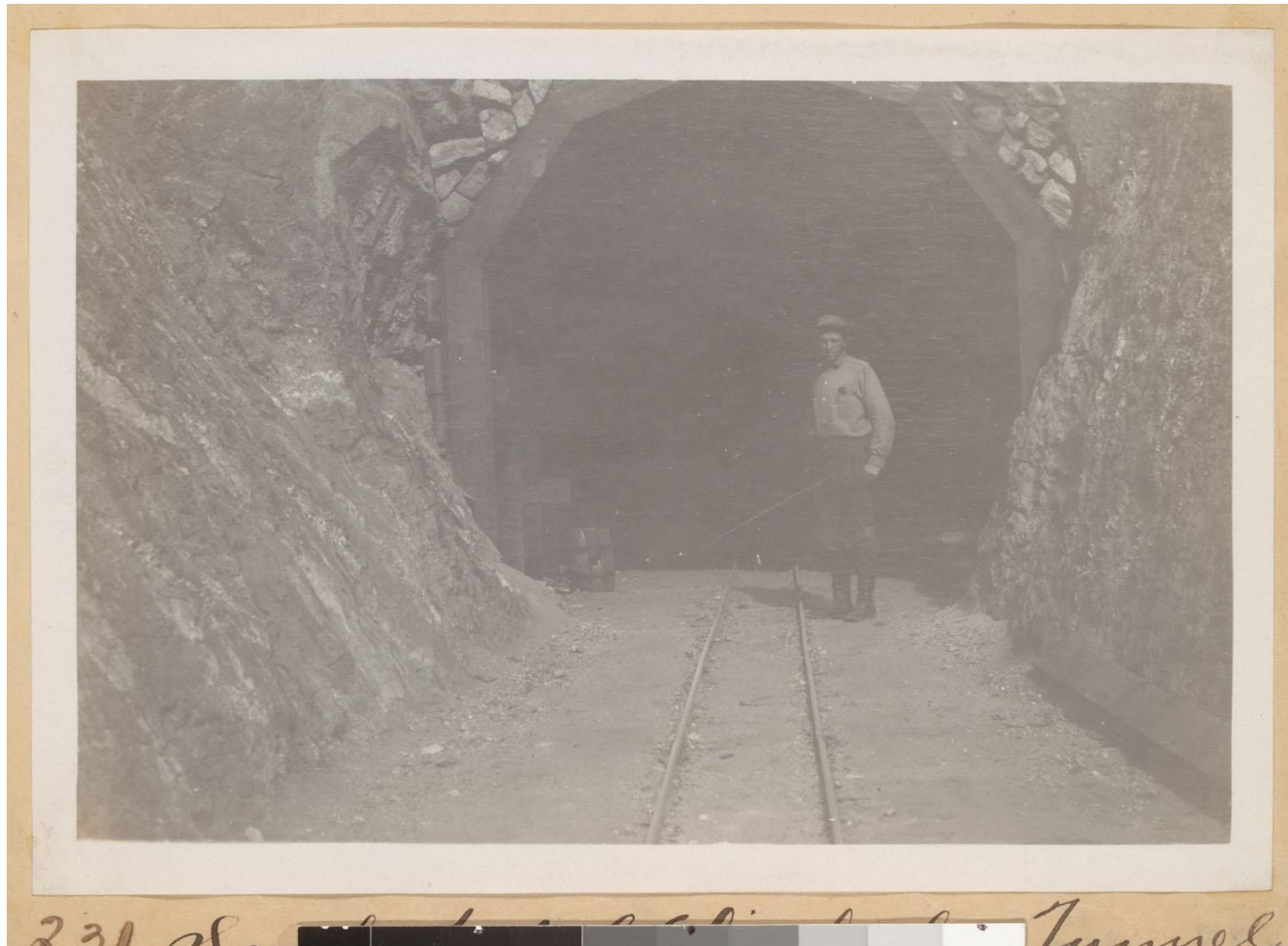
Elizabeth Lake Tunnel

- The Elizabeth Lake Tunnel was the largest single construction project on the Los Angeles Aqueduct and set speed records in its day.
- Considered one of the engineering marvels of the world when constructed
- Note: Does not go under Elizabeth Lake –
- Probably under “Munz Lake” east of Lake Hughes.
- Portal Ridge probably gets its name due to the fact that its north facing slope is the location of the "North Portal" of the Elizabeth Lake Tunnel.
- At least one map from 1980 calls it Portac Ridge

Engineering Car at South Portal of Elizabeth Lake Tunnel 1912



South Portal of Elizabeth Lake Tunnel 1908



North Portal of Elizabeth Lake Tunnel 1908



1908 North Portal of Elizabeth Lake Tunnel - Fairmont Dam in the background



Where does the water go?

- From 1926 until 1928, it flowed south out of the tunnel into the St Francis Dam in San Francisquito Canyon.



Saint Francis Dam



Photo: May 1926
colorized photo taken the
day of its dedication

It was designed to hold
one year's water supply
for the City of Los
Angeles



On the night of March 12, 1928, the dam collapsed

Photo: One day after the Failure



- **A flood wave 140 ft deep swept down the canyon,**
- **killing at least 420; of which 179 bodies were never recovered**
- Worst American civil engineering failure of the 20th Century

William Mullholland



**“Don’t
blame
anyone
else, you
just fasten
it on me.
If there
was an
error in
human
judgment,
I was the
human”.**



Dam site in recent times



