



Historic Bakersfield & Kern County, California

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Dust Storms and Valley Fever 1874-2014

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In late 1977 a 100-mph wind hit Kern County, stripped the hills of soil, ripped off store fronts, sandblasted vehicles, infected about a thousand people with valley fever, displaced hundreds and left five dead. It was probably the worst dust storm in local history,¹ but storms like that have visited here many times before, and the written history goes back more than a century.

A visitor to Bakersfield in 1874 said, "During the time of our stay, the wind blew a perfect hurricane. Dust and sand and weeds and leaves filled the air, at times making it impossible to see the distance of a hundred yards. The drifted sand in many places evinced the fact that this was nothing new to the

¹ Bakersfield Californian, Dec 22, 1977

country.”² Just two years later a hurricane-force wind swept in, hit the Bakersfield Methodist church, and turned it sideways up against a tree. The town probably sustained other damage, but details coming from south of town on the Tejon plain were horrific. There, 100,000 sheep faced the wind and flying debris. “Many were completely buried by the driving sand. Some were caught by the wind and blown along the hard ground “as from a catapult. The storm of gravel, sand, and stones ... were driven with force enough to beat the animals to death.”³ More than 30,000 were lost. Herders were powerless to rescue their bands. “Men on horseback left their animals and came into camp with their faces bruised so as to nearly close their eyes. On the San Emidio, cattle driven into the beds of streams were in some places buried completely out of sight. The grass, which had been pulled out by the roots piled up in waves along the plains. It was the most disastrous storm known to this county for many years.”⁴

According to a Sacramento newspaper, a storm here in March 1882 removed hundreds of acres of top soil and left the surface “as bare of any sign or vestige of grass as the streets of a city.”⁵ But that same storm got only brief mention in a Bakersfield newspaper. “A heavy gale of wind sprung up last Sunday and continued, with partial lulls during the night time, until Wednesday inclusive. The monotony was relieved from

² Pacific Rural Press, Nov 28, 1874

³ *Southern Californian, Kern County Weekly Courier*, Jan 6, Jan 13, 1876

⁴ Ibid.

⁵ Sacramento Daily Union, Mar 28, 1882

time to time by spurts of rain, but not enough to replace the moisture that warm dry wind took from the soil.”⁶

On New Year’s Eve 1882 another sandstorm struck, and this time the newspaper had more to say. “Last Sunday night, about 7 o’clock, commenced the most violent sand-storm, or chinook, that has ever occurred in this part of the State within the memory of the oldest white inhabitant. The wind blew with unremitting violence, the air filled with drifting sand and impalpable dust so that breathing was difficult and painful, until about 4 P.M., of the next day. When it ceased, the air cleared and advantage was taken of the circumstances, in most dwellings, to clear apartments in which to pass the night.⁷ Soon after dark, the wind again rose and blew with equal violence until next morning; but it came from the other direction and brought but little sand and dust. It is difficult to imagine as more gloomy and distressing a day than that with which we commenced the New Year in this section of the State. In the town, business of every kind was necessarily suspended. Nothing was thought of but to assume the positions most favorable for endurance. To cook and prepare food was impossible, and the impalpable dust penetrating everywhere spoiled, or rendered unpalatable, what was already prepared. When the storm ceased, the morning of the 2d inst.,⁸ there was not an article in the tightest rooms and closets not either buried in or coved with dust as fine as flour and as difficult to remove. It was an event that housewives, especially, will remember as long as they live. In most dwellings, it is safe to

⁶ Kern County Californian, Mar 18, 1882

⁷ The word apartments meant rooms.

⁸ “2d inst.” means the 2nd of the month.

say it will require weeks to bring about the same state of cleanliness that prevailed before the storm. Many shade and ornamental trees and fences were blown down. In some places deep trenches were excavated into the apparently solid earth, and elsewhere mounds of earth and sand deposited. Many miles of ditches were filled up, and in some places sections of the main irrigating canals. Although the damage inflicted has been considerable and the discomfort more than words can tell, we hope that no other visitation of the kind may be far distant.”⁹

Twenty years passed when newspaperman George Wear recalled that calamity. “It was on the night of the 31st of December, 1881, and during all of the next day. That was a daisy, and would put any other storm to the blush. Talk about blowing the whistlers off the moon! That storm could have done it. The wind commenced blowing at night. Long before morning it was raging. When daylight came the town looked completely demoralized. For a great part of the time the sand was so thick in the air that you could not see across the street, and when you could it was only to behold devastation. Fences were down, signs were gone, and no one was to be seen. Doors could not be opened, for if they were, a perfect rain of sand went in. Numbers of light houses were blown down. It was impossible for any cooking to be done, and guests at the hotel as well as families had to go hungry. This continued all day, and all felt as though a plague of locusts had visited the country. Teams could not be used. It was an utter impossibility to get a horse to face the wind. Therefore, it was an

⁹ Kern County Californian, Jan 6, 1883

impossibility to get the mail from the depot. About noon several of us attempted to go to the depot, but couldn't face the storm, and the winds actually blew us backwards. We couldn't make any headway at all and had to give up the undertaking. The night before, the driver of the bus started for the depot and got lost. His horses wandered around and finally stopped by a fence. He could go no further and crawling into the hack he stayed until daylight. Then he found that he had been camping just outside of the cemetery. Boy, that was a sandstorm. We don't have them now."¹⁰

The story Lawrence Weill told about his mother probably recalled the same storm. "She thought that Papa had surprised her with a new bed-spread. You see, she went into the bedroom and saw that the spread was a different color from what it had been the day before. Overnight the color had changed from white to a lovely tan shade. You see, this was Mama's first experience with a dust storm. A traditional valley dust storm had made her think that she had a new spread."¹¹

In June 1898 Bakersfield was calm when the newspaper commented that the town was seeing strange days: Dust in the air blurred things only a block away. The newspaper explained that three weeks of powerful winds on the Mojave Desert had blown dirt into the upper atmosphere, and there more benign wind had wafted it to Bakersfield and quietly blanketed the town.¹²

¹⁰ Daily Californian, Oct 27, 1903. The cemetery was probably Union Cemetery.

¹¹ Lawrence Weill, William Harland Boyd, Robert A. Fisher, Irma Weill, *Lawrence Weill's Bakersfield*, Kern County Historical Society, Bakersfield, California, 1984, p 26

¹² Daily Californian Jul 1, 1898

The sandstorm of 1913 was the worst in memory. "The weather had been excessively hot and oppressive for days, and it finally cumulated in this unusual display. Passengers who came into Taft on the morning train from Bakersfield said the storm apparently originated in the Tehachapi Mountains, and they watched it as it traveled in the form of a crescent across the plain, hitting Bakersfield and then moving to the West Side. It was most awe-inspiring and frightening in its aspect, dirty-grey rolling clouds of dust at the base and black clouds, continuously split by lightning, above; passing rather slowly across the desert."¹³

On January 27, 1916, just after 1:00 P.M., a 60-mph gale from the west struck Bakersfield. Trees fell across the city, poles were broken and wires laid low. All communication with the West Side went silent.¹⁴ The wind decreased perceptibly by 3:00 P.M., and the next day came news of wide-spread damage at Taft and Maricopa. Across the West Side more than 400 oil derricks were on their sides. The historic gale brought massive damage that was followed by rain, but it was more a monstrous wind than a monstrous sandstorm.¹⁵

The flying dirt and sand of December 24, 1921 broke windshields, turned over cars, and knocked down trees. "On the state highway south of Bakersfield automobilists en route to Los Angeles stopped at Greenfield and turned back when they approached the sandstorm which was nearing there."

¹³ Edith Dane, "Kernland Tales," Taft Midway Driller, Feb 8, 1950. Transcribed and edited by Larry Peahl, 2006. Kern County Library, McGuire Local History Room

¹⁴ Bakersfield Californian, Jan 27, 1916

¹⁵ Bakersfield Californian, Jan 28, 1916. William Rintoul, *Oildorado, Boom Times on the West Side*, Valley Publishers, Fresno, California, 1978, pp 96-104

Stranded automobiles were partially covered by banks of sand and motorists cut by flying gavel.¹⁶ That storm was called one of the fiercest every to visit Kern County.

But the dust storm of November 1926 bought a wall of dust a mile high,¹⁷ and six months later a half-mile-high, yellow dust storm covered Bakersfield in dirt, blew down a 250-foot-long hanger, and crushed six airplanes.¹⁸ Power was out from Fresno to Bakersfield, water pressure was zero, and residents had to quench their thirst with near-beer and soft cider.¹⁹ In June 1937 Bakersfield got a taste of the Dust Bowl when a dust storm 800 feet high collapsed oil derricks blew over trees, peppered cars, blasted houses and choked residents.²⁰

By the mid-Twenties doctors suspected that wind and dust storms in the San Joaquine Valley did more than upset town residents and destroy farm land. In late 1937 the Kern County Medical Association reported that the Rosenberg Foundation had granted \$25,000 to Stanford University for research into a little-know ailment called the San Joaquin disease.²¹

In 1941 the general public was still mostly unaware of the link between dust and valley fever. The dust storms of January, February and March 1941 provoked a Bakersfield Californian

¹⁶ Bakersfield Californian, Dec 26, 1921

¹⁷ Bakersfield Californian, Nov 24, 1926. The wind was followed by rain.

¹⁸ Bakersfield Californian, Dec 21, 1977, p 14. This describes a major dust and sandstorm that struck Bakersfield on Dec 26, 1927.

¹⁹ Bakersfield Californian, Jun 20, 1927

²⁰ Bakersfield Californian Jun 28, 1937

²¹ The Rosenberg Foundation, established in 1935 at the bequest of California business leader Max L. Rosenberg, has provided nearly 2,800 grants totaling about \$80 million to regional, statewide and national organizations advocating for social and economic justice throughout California. www.rosenbergfound.org; Bakersfield Californian, Nov 19, 1937

subscriber to write, "Whether that dust comes from the Edison district or the Wheeler Ridge district, county officials should recognize that something must be done. If dust storms and sandstorms be an act of God, because the wind blows, it would seem also that those persons responsible for uncovering land of its protective grasses are creators of a public nuisance."²²

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Bakersfield Californian, November 11, 1944

²² Bakersfield Californian, Apr 10, 1941

During WWII, soldiers assigned to Kern County flying fields came down with a sickness resembling the flu. Most infections were mild, but they affected the war effort. When the Army looked into county hospital records it found Dr. Ernest Dickson's research from the 1930s that showed a significant relationship between valley fever and exposure to airborne dust.²³ After that, Army flying fields saw water trucks and new grass and paved roads. Infection rates dropped.²⁴



DUST STALLS 1000 AUTOMOBILES—Sergeant Max Williams of the California Highway Patrol dons a gas mask to direct traffic during Wednesday's eight-hour dust storm here. Approximately 500 automobiles were snarled 19 miles south of Bakersfield because of a 20-car wreck caused by the storm. Two persons were seriously

injured in the accident, caused by the blinding dust which was whipped across the highway by winds of 50-mile-an-hour velocity. Low visibility was responsible for scores of minor accidents on Kern highways and downed trees and power lines. Crop damage is estimated in the millions today.

Bakersfield Californian, April 29, 1948

In 1948 an 8,000-foot-deep, swirling black cloud pushed by high winds removed thousands of acres of dirt, buried new farm land, uprooted countless trees, snarled traffic, destroyed

²³ C. Ernest Dickson, MD, was a Stanford professor of public health and preventive medicine and an authority on San Joaquin valley disease, including the coccidioides immitis organism. H. M. Ginsburg, MD, director of Fresno County general Hospital in 1935 was a local specialist of the infection.

²⁴ Bakersfield Californian, Jul 3, 1948

migrant camps and smothered Bakersfield in dust.²⁵ Cases of valley fever spiked. In 1947 the Kern County Health Department had reported a total of 151 cases, but by mid-1948, 105 were on record.²⁶

The public was beginning to understand the link between dust and valley fever. Two months later officials asked the county to form an air pollution control district under authority of the state health and safety code. Citizens demanded the right to breath clean air, although agricultural dust then did not fall under provisions of the state health code. Would statements from Kern County Health Officer W.C. Buss that dust storms doubled and tripled respirational ailments and San Joaquin valley fever help improve air quality?²⁷

In July 1948 the Kern County Medical Society published an American Medical Association report that stressed "the desirability of the control of dust by planting grass and by oiling and paving."²⁸ It concluded, "Through this means it has been found that incidents of the disease (San Joaquin Fever) can be reduced as much as one-half to two-thirds in controlled groups."²⁹

But the report might have set-back funding for research when it said, "The San Joaquin fever problem, however, has its 'bright side'. It is a relatively innocuous disease, and the number of deaths is extremely low. Statistics indicate that after 10 years of residence, at least 80 per cent of the people in the

²⁵ Bakersfield Californian, Apr 29, 1948

²⁶ Bakersfield Californian, Jun 24, 1948. By July the increase was threefold.

²⁷ Bakersfield Californian, Jun 29, 1948

²⁸ Journal of the American Medical Association, Dec 7, 1946

²⁹ Bakersfield Californian, Jul 3, 1948

valley probably have had the disease. Of these, 60 percent had it without symptoms. There is no cause for undue alarm, nor reason to leave the valley because of San Joaquin Fever."³⁰

At Bakersfield in October 1949 five state senators and five assemblymen received testimony from soil experts, farmers, cattlemen, and housewives, all of whom spoke only about wind erosion and dust control. But that evening at a public dinner Dr. David Halliday of the State Department of Public Health told the committee, "If there were no other reason for establishing a dust control program in Kern county, valley fever would be reason enough."³¹

Public awareness, or apathy, must have reached a ebb in 1986 when the Bakersfield City School District distributed a Third Grade classroom booklet *Exploring Kern County*.³² In the chapter entitled "All Aboard for Shark's Tooth Mountain," excited boys and girls scrambled up Shark's Tooth Hill behind an Uncle Jim described as "a friend of elementary school children." As the class descended the hill, Uncle Jim asked, "Have you seen a shark's tooth? Did you know the valley fever spores are found on Shark's Tooth Mountain?"³³

Kern County's "little regional disease" was again news during the drought of 1976 when Bakersfield Californian's staffer Gordon Anderson reported that valley fever cases had doubled and that total infections had probably reached 3,000. Was anyone outside Kern County concerned? A visitor here once

³⁰ Bakersfield Californian, Jul 3, 1948

³¹ Bakersfield Californian, Oct 29, 1949

³² Glendon J. Rodgers, *Exploring Kern County*, Reed Printing, Bakersfield California, 1960. Fearon Publishers, 1985

³³ 60% of soil samples taken at Shark Tooth Hill contain the fungus. Bakersfield Californian, Sep 27, 1993, A4

remarked, "So most of you don't know you had it, and less than two percent of you die of it? It's a no-brainer; why bother?" There was no brief to answer that statement, but the tourist was told that if he was fatigued or coughed or had a rash when he got home, then he needed to tell his doctor about valley fever.

The organism was stimulated in 1991 by unusually heavy spring rains. Winds later in the year spread the spores around, and by January 1992 more than eleven hundred infections were reported. The infection rate peaked at 3,342 cases but also caused 25 deaths. The average infection rate for for 1991-1993 was 2,100 and estimated losses more than \$56 million.³⁴

Valley fever went head-to-head with the Army in WWII, but after government funding ended, doctors and scientists made due with limited financial help from philanthropics and business.³⁵ In 2008-2011 a five-fold increase in valley fever in the Antelope Valley struck the Dryden Flight Research Center (funded by NASA), and in consequence the center opened its wallet for valley fever research.³⁶

An historically-modest wind of 40 mph swept out of Kern River Canyon in January 2014 and covered the valley in dust, which was exactly 140 years after the early visitor noted that drifted sand "was nothing new to the country."³⁷ Since 1874 we have learned to appreciate the health hazard of dust: Schools in

³⁴ Bakersfield Californian, Apr 22, 2002, Michelle Terwilleger, staff writer

³⁵ In 1995 Rotary clubs in Western states created the Valley Fever Vaccine Project of the Americas. See <http://valleyfever.com/> for progress against the disease. Pharmaceutical companies have not invested in valley fever research owing negative cost-benefit to them.

³⁶ www.nasa.gov/centers/dryden/Features/valley_fever_research.html#.UvuR-JmmXG8

³⁷ Pacific Rural Press, Nov 28, 1874

January 2014 cancelled outdoor sporting events, pedestrians donned face masks, and special flags flew to warn of bad air quality. San Joaquin Valley Air Pollution Control District's Jaime Holt told us there was no simple or safe way to avoid being exposed to the blowing dust but advised "at least putting your hand in front of your mouth if you are just walking quickly to your car."³⁸ And what about valley fever that day? Kern County health officer Dr. Claudia Jonah could only reminded us it was dangerous.

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³⁸ Bakersfield Californian, Jan 23, 2014, Laura Liera, Californian staff writer