

Quake aftermath

15 seconds that changed California

By STEVE WILSTEIN
The Associated Press

SAN FRANCISCO — In 15 seconds, as deep, jagged fissures cut through the Santa Cruz Mountains and earthquake waves rocked a World Series crowd, euphoria turned to fear and life may have changed forever for millions of Californians.

It came without warning. The only sound, close to the mile-wide, 25-mile-long ruptures along the San Andreas Fault, seemed like distant thunder in the mountains — until the cruel, random destruction began.

Then there were the sickening sounds of crashing cars, broken glass, and crumbling houses.

Fifteen seconds. Time enough to kill dozens, injure thousands, displace more than 10,000 people and wreak billions of dollars worth of damage. Time enough to send a jolt up and down the state and across the valleys and deserts.

In the first five seconds, the heart, and perhaps the soul, of picturesque Santa Cruz were destroyed. Hundred-year-old homes, survivors of the 1906 Great Quake, gone. Quaint downtown shops reduced to rubble. Longtime residents stunned, and many later would talk about leaving a city prized for its free-spirited lifestyle, surfing beaches and historic Boardwalk.

About 10 seconds later, the towering Bay Bridge — symbol of a World Series between the San Francisco Giants and Oakland Athletics that had infused the Bay Area with giddiness and pride — partially collapsed and a section of Interstate 880 came smashing down on rush-hour commuters.

Candlestick Park, where 62,000 fans waited for the start of Game 3 of the Series, quivered violently but didn't fall. Amazingly, there was no panic, no stampede for the exits. Indeed, a wild roar erupted from the fans who took the quake as an omen of the Giants' comeback from two losses.

and the fear it could happen again on an even larger scale.

They are trying to return to normal life, but it is difficult when the evidence of ruin is so widespread and more than 1,500 aftershocks have hit since.

"This is one of those events, like the Kennedy assassination, that almost everyone who lived through it will remember in detail," said Dr. Donald Tarver, a psychiatrist with the Mission Crisis unit in San Francisco. "It had a life-changing context for those who lost homes or loved ones and it could have life-changing consequences for many others who shared in an event with such a wide impact."

It began 10 miles underground in the mountains along the San Andreas Fault, the boundary between the North American and Pacific

tectonic plates, which move sideways to each other at the rate of two inches a year.

The fault, straight in some places, curves like the letter "S" in the Santa Cruz area, 57 miles south of San Francisco, causing both horizontal motions and compression, according to Robert Uhrhammer, research seismologist for the University of California-Berkeley Seismographic Station.

On Tuesday, when the strain exceeded the strength of the rock, the Earth's crust ruptured, unleashing a force that Uhrhammer said was equivalent to about 30 million tons of high explosives — nearly 10 times the total of explosive power of all bombs in World War II, including the two atomic bombs.

Compression waves shot out in all directions at the rate of 18,000

mph, followed by the more damaging horizontal shear waves traveling at 10,800 mph and elliptically shaped waves going 7,800 mph.

Unlike the narrow, 270-mile-long split from the 1906 quake in the same region, the new quake caused many cracks, fractures, slides and slumps along a broader, shorter zone.

The Berkeley station's instruments measured the magnitude of Tuesday's quake at 7 on the Richter scale, a bit more than the 6.9 magnitude registered on the Alaska-based seismograph of the U.S. Geological Survey. In a few weeks, scientists from around the world will meet to compare notes and tag the quake with its official reading.

When the quake hit Candlestick, Giants center fielder Brett Butler was stretching down the right-field

line. The first thing he saw was the lights blinking off one by one.

"I thought there was a ceremony they hadn't told us about and I expected to see the Blue Angels parachute down near home plate," he said. "Then I heard the crowd and I knew something was up. Then I felt the ground start rolling."

A few miles away, in the Bay Area Rapid Transit tube under San Francisco Bay, Anthony Ramsey of Hayward couldn't understand why his train was suddenly dark and standing still.

"Nobody told us what was going on," Ramsey said. "We waited around about an hour until it started back up. Nobody panicked but we were all upset. I would rather have known what was happening. But maybe it was better

that way. It might have panicked people to know they were in the tube during a big quake."

The quake knocked down power lines and cut electricity supplies to more than 1 million customers, including all of San Francisco.

At that same moment, the worst disaster occurred across the bay in Oakland when a mile-long stretch of the elevated portion of Interstate 880 buckled and crumbled. Cars on top plunged downward and those on the bottom were buried under tons of concrete and twisted steel.

Among those killed on the highway were five women employees of UC-San Francisco, who were traveling home to Alameda in a carpool van. "They were just five minutes from home," said Bruce Marsden, husband of one of the van's victims, Donna Marsden.

didn't fall. Amazingly, there was no panic, no stampede for the exits. Indeed, a wild roar erupted from the fans who took the quake as an omen of the Giants' comeback from two losses.

At the same moment, beautiful apartment buildings and condos, worth millions of dollars, tumbled or caught fire in San Francisco on the soft landfill in the Marina district, a mile from Fisherman's Wharf. Luxury cars were crushed by the bricks and debris. Remnants of the good life lay on the sidewalks and littered streets — stereos, VCRs, skis, golf clubs, carried out by desperate residents trying to salvage whatever they could.

Oakland's ornate City Hall was rendered unusable, along with a dozen other buildings. Homes and businesses in Silicon Valley, the high-tech center of the nation located between Santa Cruz and San Francisco, somehow escaped with relatively little damage. Skyscrapers in the cities swayed but didn't fall.

When the quake struck, it was the start of "happy hour" in many restaurants and bars, and patrons were gathered to watch the Series when suddenly bottles and glasses and mirrors flew in every direction.

Children waiting to be picked up from day-care centers began wailing as they tumbled among the scattering toys.

Water sloshed out of pools, dishes fell, liquor stores and supermarkets had bottles and groceries splattered on the floor.

No one who survived those 15 seconds of terror at 5:04 p.m. on Oct. 17, 1989, is likely to forget where he or she was, just as those who lived through the Great Quake of 1906 never forgot what happened to them.

Whether they were injured, suffered damage to their homes or businesses or the losses of friends or relatives, the survivors must live with the memory of the event