

The Prickly Pear Fault suddenly awakens near Helena, north and east of Prickly Pear Creek, and the rupture shoots northwest and southeast from the epicenter along the fault at two miles per second, sending seismic energy waves out in all directions. In an instant, the ground on the two sides of the fault is offset two to three meters and the initial rupture causes simultaneous ruptures along faults in the Helena area.

As the earthquake's rupture front travels along the Prickly Pear fault system, it sends out seismic waves that shake the ground, shifting emergency generators, overturning computers, cracking airport runways, and igniting fires. By now, sediments south and west of Lake Helena are resonating, with the earthquake waves bouncing off of the rock walls of the mountainous terrain east and south of the quake's epicenter. Strong shaking will continue for nearly 30 seconds.

Many homes in the Helena area suffer only moderate damage. Those suffering minor damage find that every item inside, if not secured, is heading to the floor. Shattered TVs and other home electronics create treacherous carpets of glass and cords. The rupture causes several ruptures of Interstate 15 and US Highway 12. Roads, previously going across the fault, now end abruptly and pick up again 6-9 feet to the right. Helena High School, rebuilt in 1955 following the 1935 Helena earthquake, suffers a partial collapse. The East Valley Middle School and the R. H. Radley Elementary schools suffer similar fates. The damages results in numerous injuries to students and faculty.

The strong shaking also sends landslides across the rails and roads. Pipelines snap and electrical transmission lines fail. Spraying fuel ignites, causing an explosion. Strong shaking continues to reverberate in the sediment filled basins of the south and west of Lake Helena. Historic Helena buildings are crumbling, and have trapped or killed the people inside. Many older concrete and unreinforced masonry buildings have collapsed, while older wood frame buildings have shifted off their foundations, breaking gas and water lines in the process. Liquefaction causes the rail segment north of the Green Meadows Country Club, to buckle and break in several locations. The extent of the earthquake is not yet known, but in time residents will discover its wrath is widespread.

This will be the scenario that kicks off the Vigilant Guard 2009 Exercise this September. Vigilant Guard is a Homeland Defense/Homeland Security FEMA Regional exercise hosted by the National Guard in conjunction with the state. Stay tuned for more information on this event.