

Researchers prepare for Napa earthquake experiment

Barry Eberling, Napa Valley Register, 8-18-16

Researchers are drilling holes for small, underground blasts at 42 sites across the southern Napa Valley to help Napa better prepare for the next Big One.

They are marking the second anniversary of the Aug. 24, 2014 South Napa earthquake by mapping the area's soils far below the surface. The explosions themselves are scheduled to be set off over one or two nights in early September.

But first, the United States Geological Survey held a press conference Wednesday to inform the public what will be happening in coming weeks.

Researchers said the small explosions in borings 20 feet to 30 feet deep will provide valuable data without rocking Napa. Somebody standing over one of these tiny explosions wouldn't notice much, said Coyn Criley of the USGS.

"A tickle on your feet," Criley said Wednesday at a Randolph Street yard that will be one of the data-gathering sites.

Rufus Catchings of the USGS compared the explosions to "micro, micro, micro earthquakes."

Beer can-sized seismographs will record the vibrations and create a type of underground CAT scan showing where certain soils are prone to amplify shaking. Scientists will use the results to try to figure out why the South Napa earthquake hit Napa harder than they expected.

"The looser the materials, the more shaking," Catchings said.

These seismographs are so sensitive that they can detect somebody walking.

"A sneaky walk," added Luther Strayer, associate professor in the Earth and Environmental Sciences Department at California State University East Bay.

Researchers are working along two lines that makes a giant cross about 12 miles by 12 miles. One line extends north-to-south from near Yountville through the heart of Napa to near the Napa County Airport. The other extends west-to-east from near Lovall Valley through Napa to near Wild Horse Valley.

They will place the seismographs in locations ranging from hillsides to backyards.

Initial results should be known in December. Researchers plan to map where soil conditions will cause different degrees of shaking in different neighborhoods. Goals include helping people better prepare for earthquakes and helping emergency crews know where to respond if an earthquake happens.

Elizabeth McKinne lives at the Randolph Street house where researchers gathered with the media on Wednesday. She recalled how hard the South Napa earthquake shook the 1896 late Victorian structure, knocking down the fireplace, cracking plaster and pulling a tub and its water connections from the wall, leading to water damage.

The South Napa earthquake released an energy equivalent of 60 million kilograms of dynamite as calculated by UC Berkeley. In contrast, McKinne and other Napa residents should be able to sleep through the small blasts that are planned.

“No one will know this is happening unless they’re watching,” Strayer said.