



U.S. Department of Energy Nevada Site Office

EM NEWS FLASH



New Wells Provide Information on Groundwater at Pahute Mesa

New wells drilled near historic underground test areas in Nevada are helping scientists get a clearer understanding of the groundwater in these areas while contributing to the design of a long-term monitoring system.

Drilled from September to October 2012, these two wells will supplement a network of more than 20 existing characterization wells in an area called Pahute Mesa, which extends from the northwestern portion of the Nevada National Security Site (NNSS) to the adjacent Nevada Test and Training Range (NTTR).

For more than two decades, groundwater specialists from the [U.S. Department of Energy, National Nuclear Security Administration's Nevada Site Office](#) have drilled dozens of these deep characterization wells near former testing areas throughout the NNSS and the NTTR as part of a full-scale [groundwater program](#). Through well sampling, groundwater specialists can identify specific characteristics of the groundwater, including contaminant levels, water chemistry, pressure levels, temperature and geologic features, such as fractures and faults. Experts say information gathered from each well works cumulatively to help build a more complete picture of the complex subsurface.

"This data helps us better understand what's going on in the groundwater in the vicinity of that well," said Bill Wilborn, Federal Sub-Project Director from the Nevada Site Office. "We can then input data from multiple wells into computer modeling software that produces three-dimensional images of the larger subsurface environment."

NNSS scientists use these models to make forecasts about where contaminants from historic testing reside, whether or not these contaminants are moving, and if so... at what speed. Protecting offsite populations is the ultimate goal.

"Though no contamination from historical NNSS activities has ever been detected in public water sources," Wilborn explained, "we are continually working to make sure a reliable monitoring network is in place that ensures the long-term protection of the public and the environment."

Crews at the NNSS and NTTR will spend the winter months conducting post-drilling *development and testing** activities at two other wells on Pahute Mesa. Meanwhile, groundwater specialists will continue to compile findings from wells sampled this year.

The new Pahute Mesa wells, designated ER-20-11 (bottom) and ER-EC-14 (right), were drilled to 3,003 and 2,378 feet, respectively. Depths of characterization wells typically range from 800 to 4,000 feet beneath the surface.



**Well development refers to a cleaning-up phase in which cuttings, soap, and other drilling remnants are purged after drilling in preparation for the well testing phase, which involves the collection of raw data, such as water chemistry, geologic properties, pressure rates, etc.*