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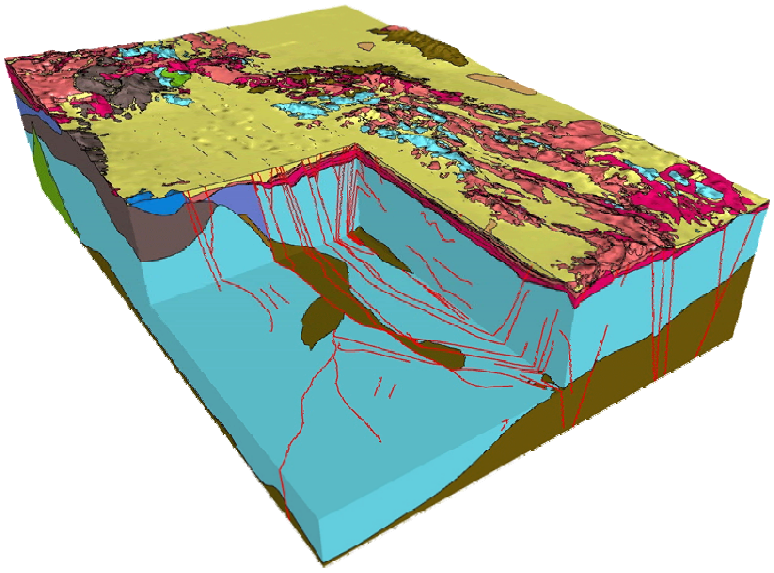
EM NEWS FLASH

Innovative Technologies Energize Groundwater Project at the Nevada Test Site

Scientists at the Nevada Test Site have undertaken an ambitious project to identify pathways for potential groundwater contamination from historic underground nuclear tests. These groundwater characterization activities, along with ongoing efforts to cleanup soil and facilities at the site, were recently accelerated after the U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office (NSO) Underground Test Area (UGTA) Sub-Project received American Recovery and Reinvestment Act funding. In many cases, finding innovative technologies to expedite this work has been the key to UGTA's success.

Special computer technology has been instrumental in helping the UGTA team visualize the complex subsurface environment of the Nevada Test Site and gain a better understanding of contaminant movement. An innovative modeling software known as EarthVision has allowed scientists to incorporate complex geophysical information from different sources, formats, and locations, and produce three-dimensional visual models that can be viewed at a variety of angles and directions. "This kind of computer modeling helps us bring together all of the geologic and hydrologic elements so that we can get a more complete picture of the subsurface," explained Navarro Nevada Environmental Services (NNES) UGTA Modeling Manager, Greg Ruskauff.



EarthVision hydrostratigraphic model of the Nevada Test Site. Each hydrostratigraphic unit (soil and rock layers grouped by hydraulic properties) is represented by a different color. The red lines represent faults.

NNES, a small business based in Las Vegas, oversees nearly $10 million of soil characterization, industrial sites remediation, munitions/explosives cleanup, and groundwater modeling for NSO and depends on innovative technologies to do work more efficiently. "This is a complex effort that takes many hands with numerous specialized skills, said NSO UGTA Sub-Project Director, Bill Wilborn. "Technology helps us streamline our efforts and reach our long-term goals faster."

Another small business known as Geohydros provides expert guidance with the EarthVision software. The Reno-based company of five is part of a niche technology market that government sites, like NSO, have been able to tap into thanks to Recovery Act money. "Companies like ours," commented Kevin Day of Geohydros, "are helping sites understand how past testing has affected the area's natural resources and determine future land uses."

Subsurface modelers, like Geohydros, rely on sampling data to generate accurate visuals. In order to help UGTA widen the breadth of its sampling efforts, the Recovery Act is funding two wells as part of a larger drilling campaign that will place a total of nine new characterization wells in the northwestern region of the Nevada Test Site known as Pahute Mesa. National Security Technologies (NSTec), the Management and Operating contractor for the Nevada Test Site, has subcontracted well construction to several small businesses, including United Drilling, B & L Casing Service, and K & R Drilling Tools. Drilling is scheduled to be completed in 2012.