

URANIUM TRANSPORT & SITE REMEDIATION



CLOCKWISE: Uranium Team member Dr. Dan Cadol checks a soil trap on Laguna Pueblo; student Tina Li runs experiments on Uranium molecule movement in water and different types of soil; UNM team members Sumant Avasarala and Carmen Rivera test new lab equipment

In the mid-20th Century, New Mexico was one of the largest national suppliers of uranium. These mines now lie abandoned, but uranium contamination still poses a risk to the surrounding areas, including those who live on Native American land where several legacy mines are located. The NM EPSCoR Uranium Transport & Site Remediation team understands that in order to mitigate and prevent contamination, we must first understand how uranium molecules interact with and move in soil, water, and biological systems.

In Year 4, the team continued their strong partnerships and collaborations with Native tribes in Northwest New Mexico to gain additional insights. By using a type of computer model that can

predict chemical reactions inside flowing liquids, the team was able to determine how long it takes uranium molecules to break down in water, and that the release of uranium is affected by water pH and the crystalline structure of the molecules themselves. This breakthrough is useful for determining where contamination may be harmful for ecosystem and human health.

Other chemical analyses were conducted on areas in the Grants Mining Belt, with collaboration with the New Mexico Environment Department, to track uranium contamination in groundwater. Their work can now be used to track contamination sites across the country.