1) Graduate students from NMT and UNM sample water from a pond near the Jackpile Mine; 2) Undergrad Claudia Roldan (left) & grad student Cherie Devore are all smiles after a long day in the field; 3) Grad student Cherie Devore collects sediment samples from the Rio Paguate on Laguna Pueblo

URANIUM TRANSPORT & SITE REMEDIATION

Uranium in New Mexico is located primarily in the Grants mineral belt, along the south margin of the San Juan Basin in the northwest part of the state. New Mexico no longer mines uranium, but concerns remain about surface and underground contamination, especially on Native American lands. The *Energize New Mexico* Uranium Transport & Site Remediation team focuses on understanding how uranium reacts to and interacts with the environment, as well its molecular mobility. The team conducted a great deal of field research in Year 2 in the Navajo Nation and on the Pueblo of Laguna. Batch experiments, sequential extractions, advanced microscopy & spectroscopy, and chemical analyses were employed to characterize sediments sampled from both locations.

The team collected and analyzed samples from an area in the Navajo Nation known to have high uranium concentration in nearby spring water used by small communities (mine workers used to wash their hands in the spring). Soil samples show an elevated presence of uranium, with dissolution and desorption shown as the primary mechanisms related to mobility of uranium molecules in the area.

Dust traps for studying uranium wind transport were installed on Laguna Pueblo, and soil and water samples were collected from all locations. Testing revealed high uranium in surface water as it passes the Jackpile-Paguate mine, with a decreased concentration as the water travels south. This is most likely due to the differences in sediment composition.