LOCATING & MAPPING BLIND GEOTHERMAL SYSTEMS

On Location with the Geothermal Team

New Mexico is endowed with relatively high heat energy flow and permeable, fractured bedrock, giving rise to numerous low temperature geothermal systems. However, developing geothermal energy as a sustainable resource in New Mexico requires a better understanding of the underlying, or "blind" natural geothermal systems.

In Year 2, the geothermal energy component team developed a methodology for locating blind geothermal systems using trace element concentrations combined with solute transport theory. Shari Kelley and Mark Person (NMT) assembled a statewide geochemical database, focusing on two trace elements, lithium and boron, often found in high concentrations within geothermal systems.

Preliminary findings reveal elevated lithium concentrations along the Rio Grande Rift near the Bosque Del Apache Bird Sanctuary, and in the southern Albuquerque Basin. The team plans to continue research along the projected flow path to determine the availability of additional existing geochemical data while developing complex, 3D models to test their hypotheses on the underground origins of the geothermal heat.