Water/Biosensor

Project Goal:

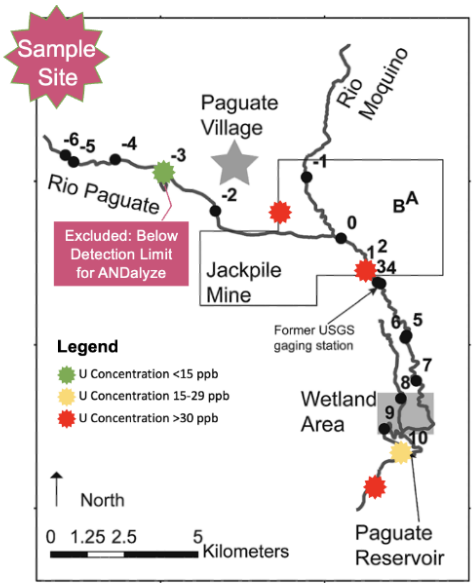
To test commercial systems with the standard instrument and develop an affordable and easy-to-use field sensor to detect Uranium and other mixed heavy metals

Principal Finding:

We learned there is a large difference in the detection of Uranium with the accepted standard compared to other more affordable commercial systems

What does this mean for your community?

This work may benefit the Pueblo of Laguna by providing current water quality data for the Rio Paguate to inform decisions about the reclamation of the Jackpile Mine and its surrounding areas



How to cite this research:

López, A., Moreira, G., Apodaca-Sparks, A., Tafoya A., Yazzie, C., Dougan, N., Fisher, K., Tsosie, K., Shuey, C., Jojola, G., Kie, L., Garcia, CA., Ali, A., Carroll, N., Cerrato, JM., López, GP. Jackpile Mine Symposium. April 22, 2025. Pueblo of Laguna, NM.

Water/Biosensor

Project Goal:

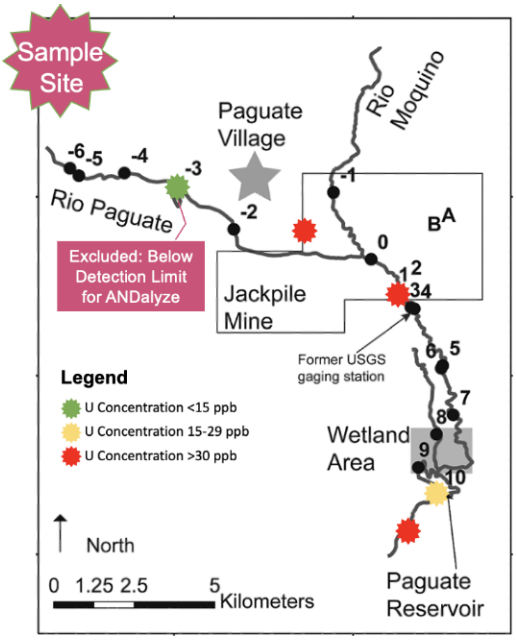
Comparison of Uranium detection in the water using commercial systems along the Rio Paguate.

Principal Finding:

Two commercial systems provided similar results for Uranium, and the smallest commercial system provided low results compared to the most expensive system

What does this mean for your community?

If the commercial systems detect accurately the Uranium measurements, an affordable system can be used as a reliable option for community members



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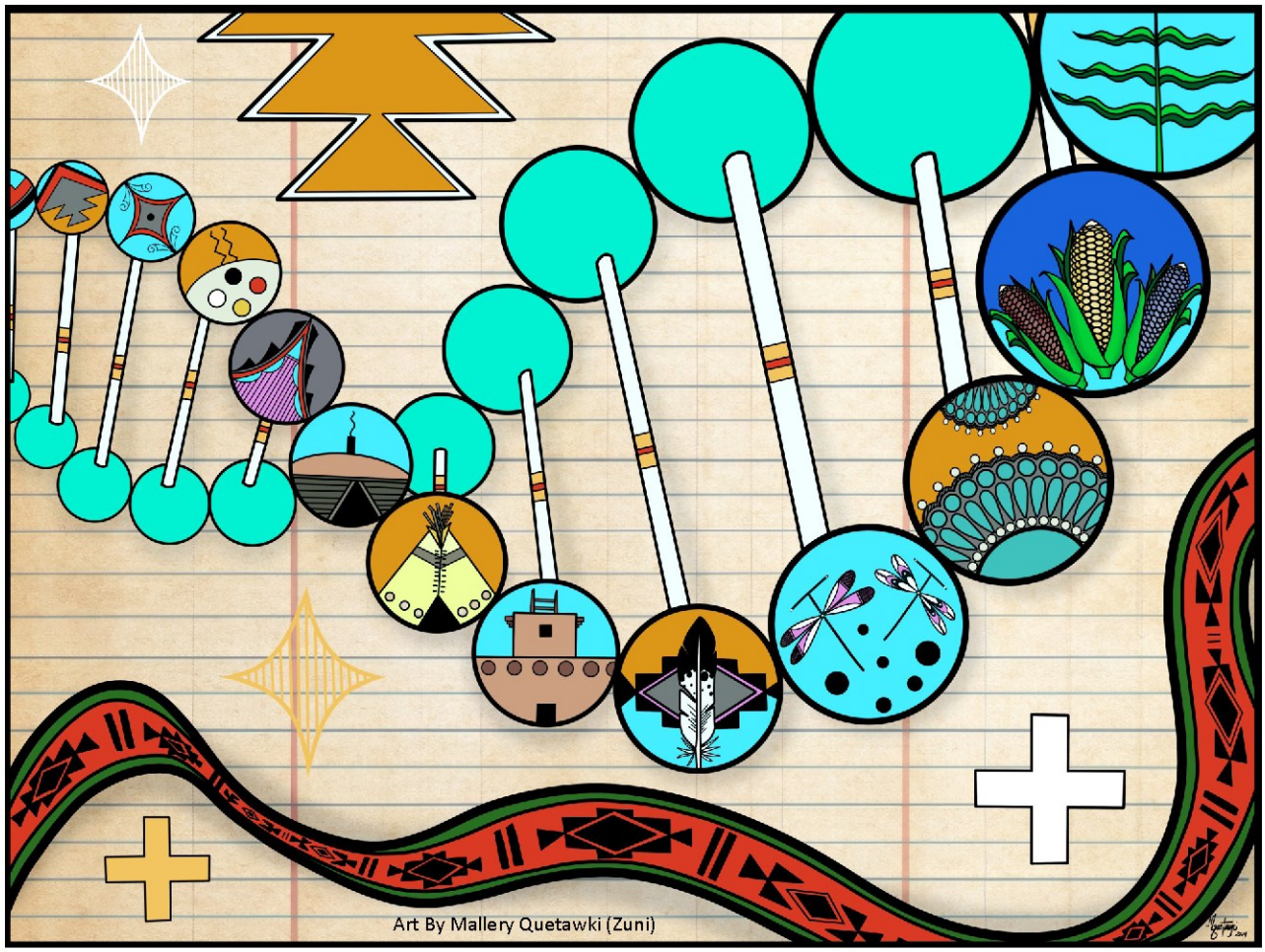
Water/Biosensor



Project Goal:

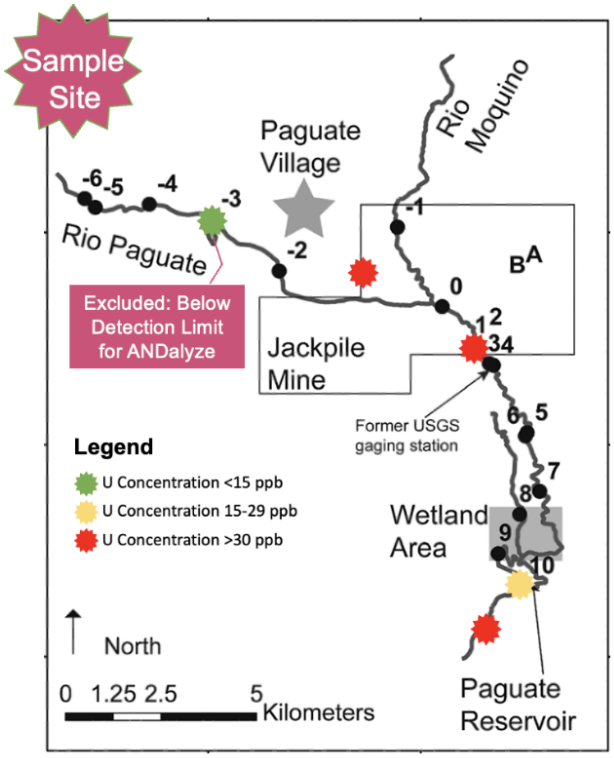
Develop building blocks for creating a biosensor technology that uses biological materials, like DNA, to measure heavy metals in the river

Principal Finding:

The technology is capturing 80 to 90% of the uranium but it needs to be improved

What does this mean for your community?

An affordable technology could measure uranium and other heavy metals that are in the water.



Art By Mallery Quetawki (Zuni)

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