

UNM METALS* SRP Update

(*Metal Exposure and Toxicity Assessment
on Tribal Lands in the Southwest)

COLLEGE OF PHARMACY
METAL EXPOSURE AND TOXICITY ASSESSMENT
ON TRIBAL LANDS IN THE SOUTHWEST

NIEHS Monthly RT/CEC Webinar
July 21, 2022



Recent Events in Partner Communities – Assessment & Policy

Chris Shuey, MPH, Community Engagement Core Lead (srcic.chris@gmail.com)
Carolyn Roman, Ph.D., Science Manager (cwroman@salud.unm.edu)

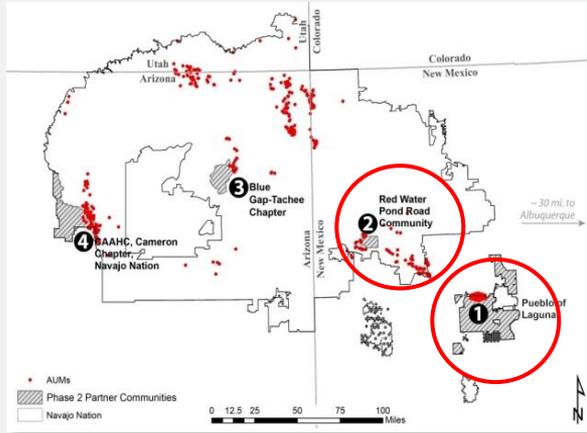
Stanford
University



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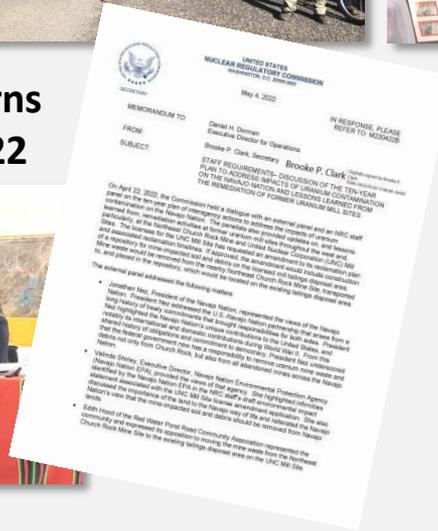
Red Water Pond Road Community Association



Annual Commemoration of 1979 Church Rock Uranium Mill Tailings Spill, July 16, 2022



3 NRC Commissioners Hear Community Concerns About Living with U Mine Wastes, April 22, 2022



Top L: ~60 people marched
Top R: Diné youth group presents
Far L: Navajo Nation President Jonathan Nez speaks as NRC chair Christopher Hanson listens
L: RWPRCA member Larry King addresses panel
R: Policy – NRC letter directs staff to halt work on final EIS, SER

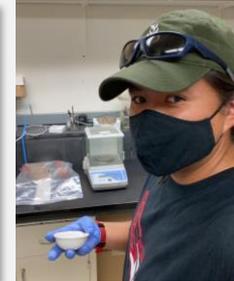
Pueblo of Laguna – Jackpile U Mine NPL



NIEHS Dep. Director Trevor Archer joined community members for tour of Jackpile Mine, April 29, 2022



Images from community report-back, June 30, 2022



Laguna resident/UNM student Derek Capitan conducted soil, plant analyses



Lincoln Encino & Kyle Swimmer collect water samples in Rio Paguate

Good water (green), bad water (red)

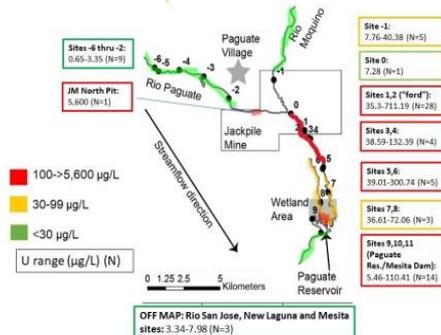
Uranium Concentrations in Rio Paguate System, Pueblo of Laguna, 2014-2021
(Sources: UNM METALS SRP, Laguna ENRD, Precent Technologies)

Findings for Rio Paguate:

- Water EXCELLENT for irrigation upstream of North Pit (green): low U, low salts (Sites 6 thru 2)
- Abrupt worsening of water quality inside mine (red) (sites 0-6)
- U in RP, wetlands behind Mesita Dam varies from good to poor, depending on flows (sites 7-11)
- No human consumption known; wildlife, livestock exposed in mine

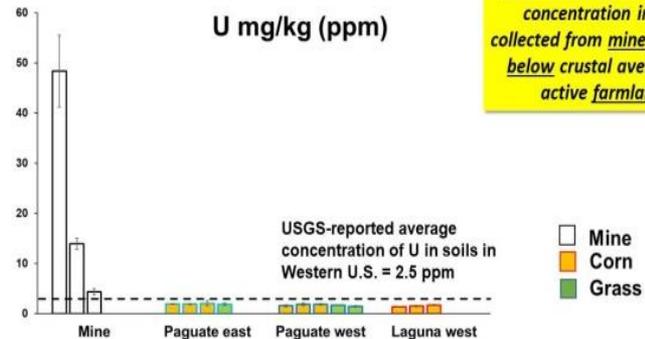
Findings for Rio San Jose:

- Low in metals (U, As); salinity increases between New Laguna and Mesita
- Limited sampling; aimed at assessing water quality for irrigation



Uranium (U) in soils

U mg/kg (ppm)



Not unexpectedly, uranium is above the crustal average concentration in soils collected from mine sites, but below crustal average on active farmlands