

Living with Uranium Wastes for 50 Years and Four Generations — A Navajo Community's Perspective

Peterson Bell, Bertha Nez, Edith Hood with Teracita Keyanna, Jacquelyn Bell-Jefferson, Grace Henio and Anna Benally

Red Water Pond Road Community Association, Coyote Canyon Chapter, Navajo Nation



Red Water Pond Road Community Association members Jean Pinto, Bertha Nez, Edith Hood, Grace Henio and Peterson Bell



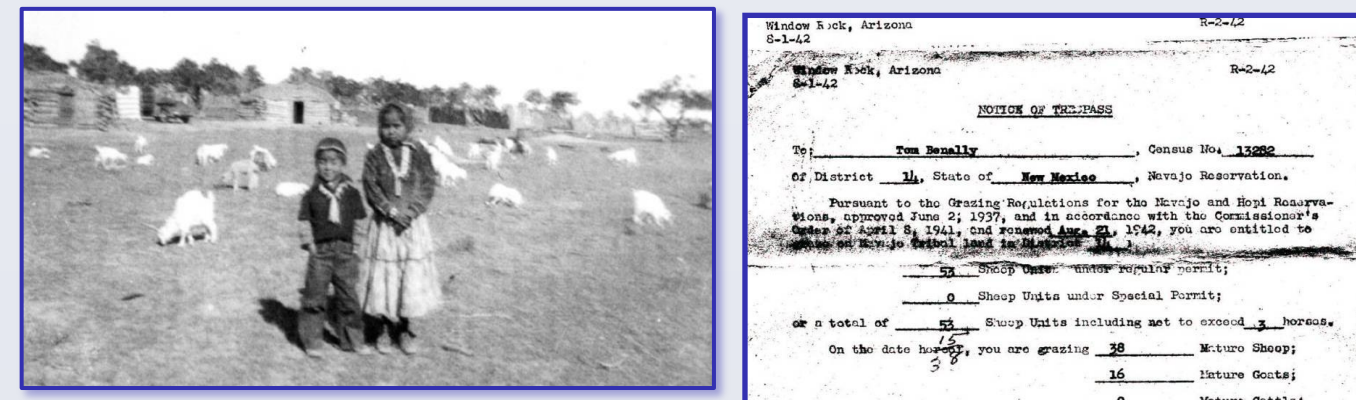
History of Our Community

The Red Water Pond Road Community Association (RWPRCA) was formed in 2006 to give community members a voice in Government decisions to clean up uranium mine and mill wastes near our homes on the Navajo Nation northeast of Gallup, NM. We take our organization's name from a local dirt road that is the main thoroughfare through our community — a road that was made of mine waste in the early 1970s to allow for the development of one of the two underground uranium mines that still sandwich our community today.

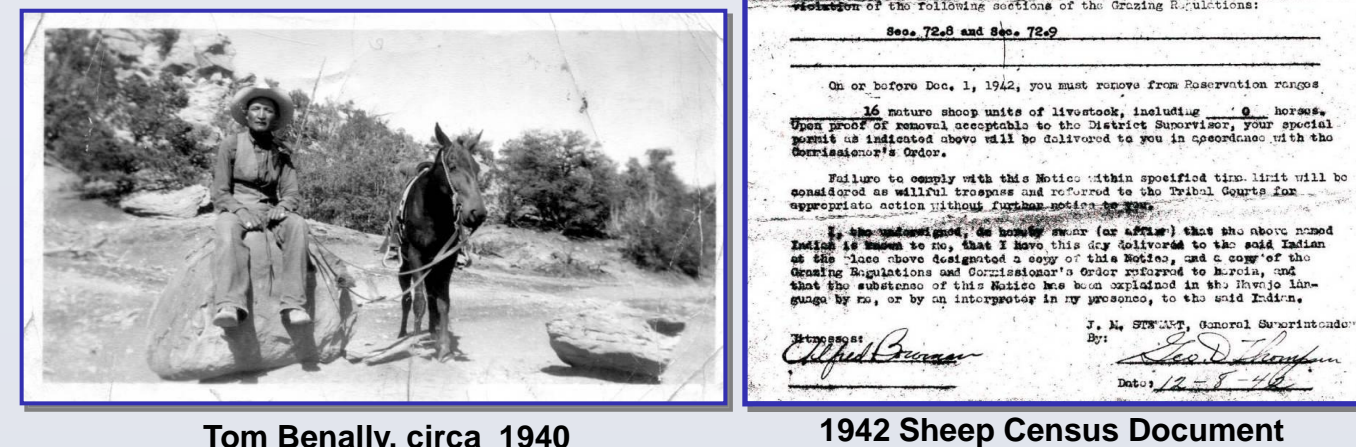


Red Water Pond Road leading to the Kerr-McGee Church Rock I Mine, 1972. Mine headframe seen in rare. The road bed was made with mine waste, which was excavated and removed 40 years later in 2012. (Photo credit: Tony Hood)

We trace our living in this place of *Diné Bıkeyah* (the Navajo Nation in the Navajo language) in northwestern New Mexico back at least 100 years. Our great-grandparents raised sheep, corn and squash and used native plants that flourished when there was more rain and forage. Our grandmother, Katherine Duncan Bell, and her brother Benny, tended to the sheep when they were children (photo, top left). Our grandfather, Tom Benally, was a sheep herder, horseman and medicine man (photo, bottom left). In the 1940s, he had to reduce his flock during the sheep-reduction era mandated by the Federal Government (document, below right). The livestock-reduction era was traumatic for many *Diné* who witnessed Government agents shooting and killing animals to enforce grazing restrictions.



Benny and Katherine Duncan, circa 1940

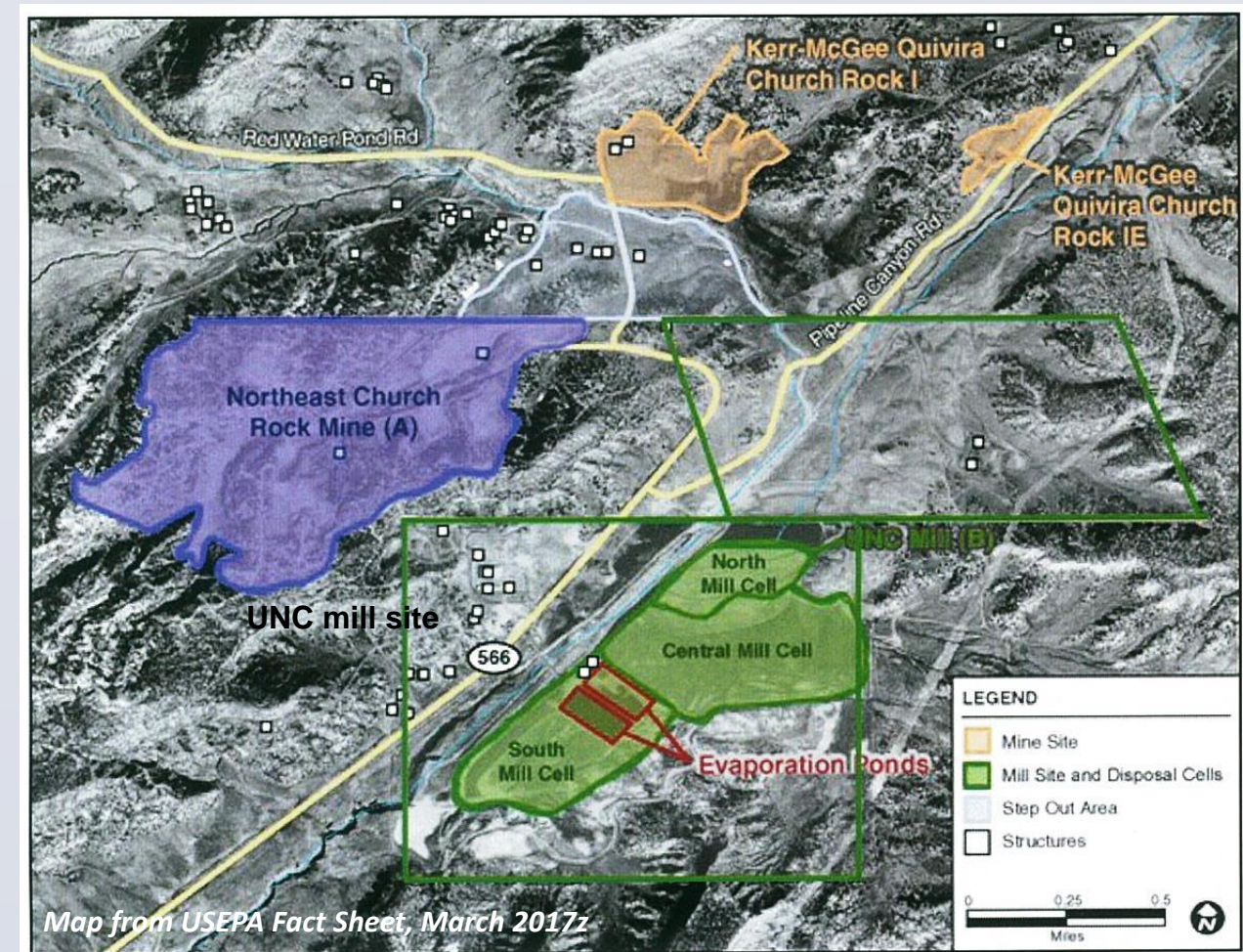


Tom Benally, circa 1940

When the mining companies started coming to the community in the 1960s, our grandmother Bessie Duncan pulled out survey stakes because she didn't want "outsiders" there. Katherine Duncan Bell later went to Coyote Canyon Chapter to oppose uranium mining. She was ignored. We did not give our consent as is now required by the UN Declaration on the Rights of Indigenous People.

Uranium Mining History

Uranium exploration began in the 1950s on parts of 500,000 acres of Tribal trust land, including lands on what would become the site of the Northeast Church Rock Mine (NECRM). Later, the Navajo Nation approved a lease for Kerr-McGee's Church Rock I and I-E. And in 1974, construction began on the United Nuclear Corp. (UNC) uranium mill and tailings pile, which operated between 1977 and 1982. The two underground mines shut down in 1983 (map at right).



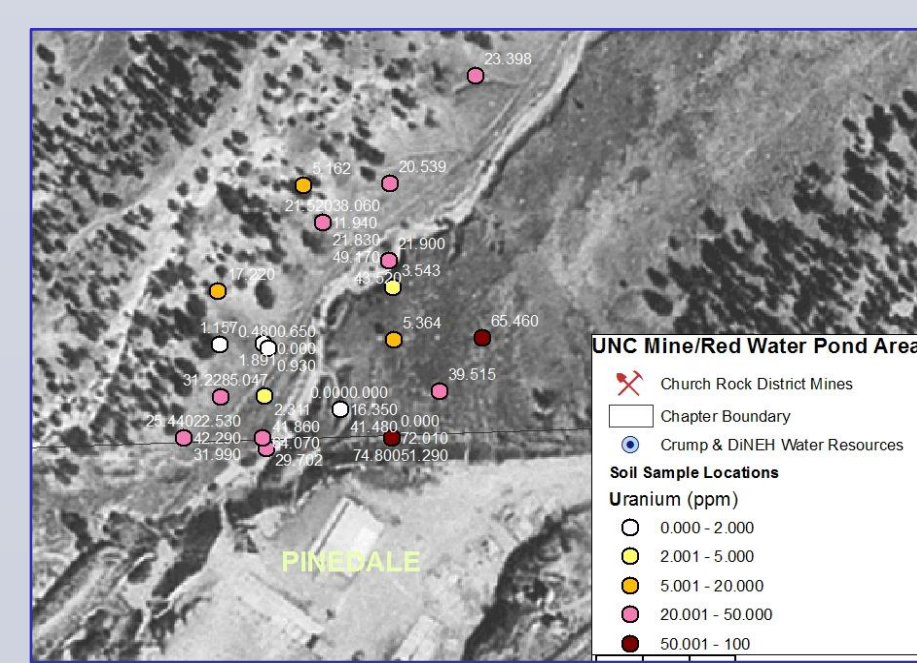
When I was young, our home was between two uranium mines and half a mile away from a mill. These areas did not have fencing that prevented myself or other children my age from crossing. Playing and exploring was a favorite pastime. My family had a flock of sheep that grazed on these mines sites and there was never any warning from UNC or Navajo EPA or USEPA. My entire generation has been affected and we will never be compensated for our well being stolen by the corporations.

— Teracita Keyanna

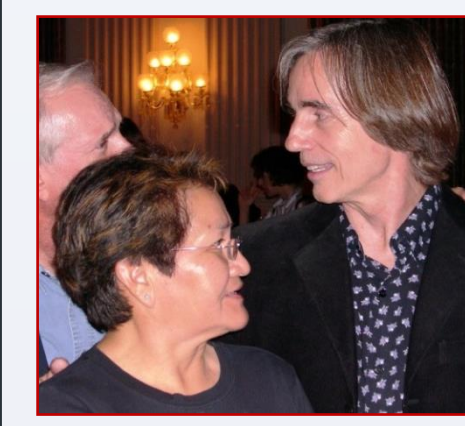
Citizen Science

Twenty years after the mines and mill closed, RWPRCA members did field work to document soil contamination in the community.

- Monitored gamma radiation as part of CRUMP (2002-2007) (top photos)
- Worked with grad students to assess uranium in soil near residences (2004-2006) (map)
- Adopted resolution addressing cleanup (2006)
- Gave blood and urine samples as part of DINEH Kidney Health Project (2007)
- Testified at Waxman Hearing (2007)
- Commented on first Federal Agencies' Five-Year Plan (2008)



4 generations...50 years



"[A]s I pray in the early morning, there is a manmade mesa of radioactive and hazardous waste about a quarter of a mile northeast of my residence. In the other direction is another mound of uranium mining waste... This waste seems to be piled everywhere... This stuff is spread by wind and water. We breathe it and live with it every day"

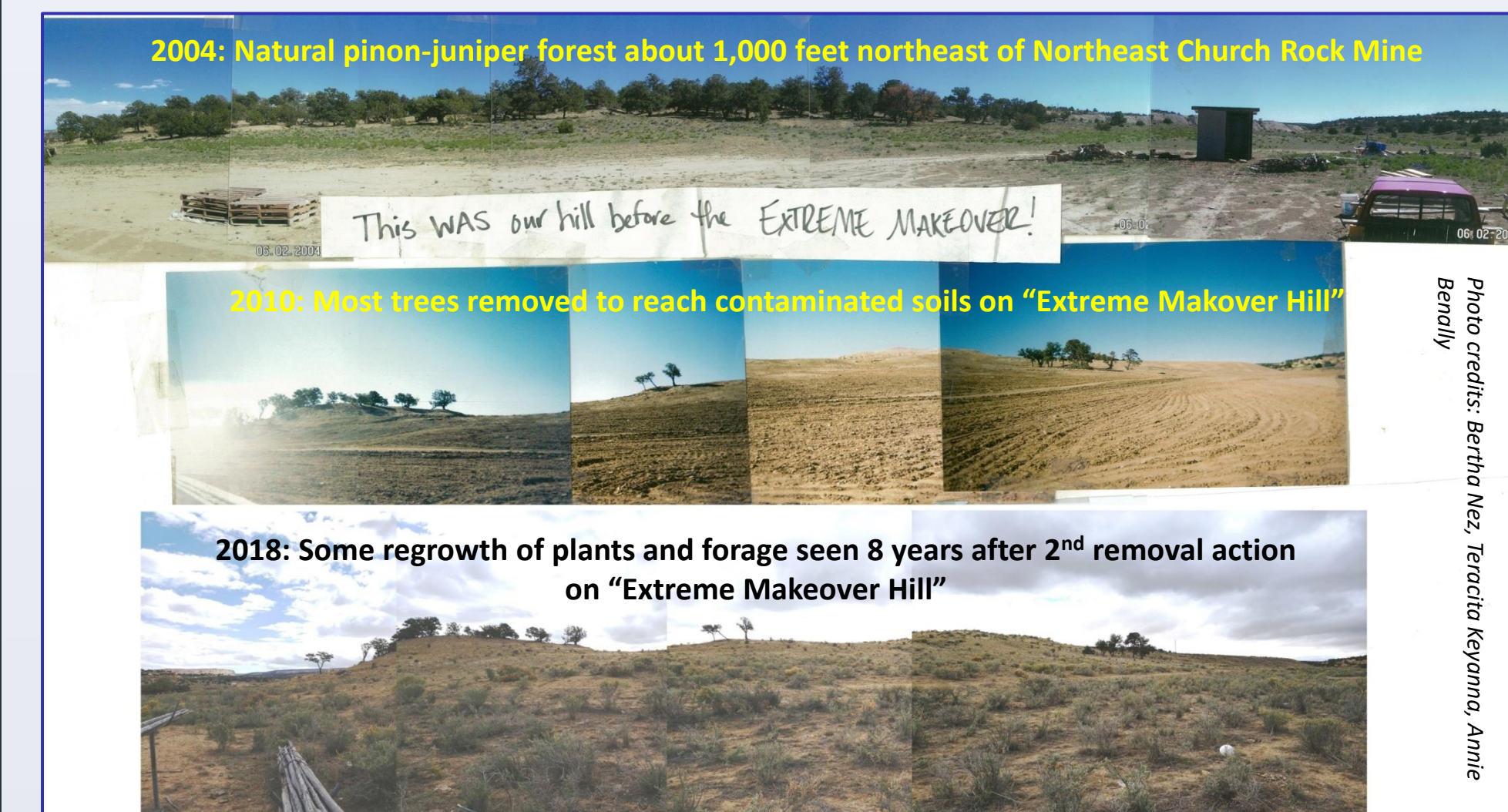
— Edith Hood, testimony before U.S. House Committee on Oversight, October 23, 2007

Exposures Across Generations

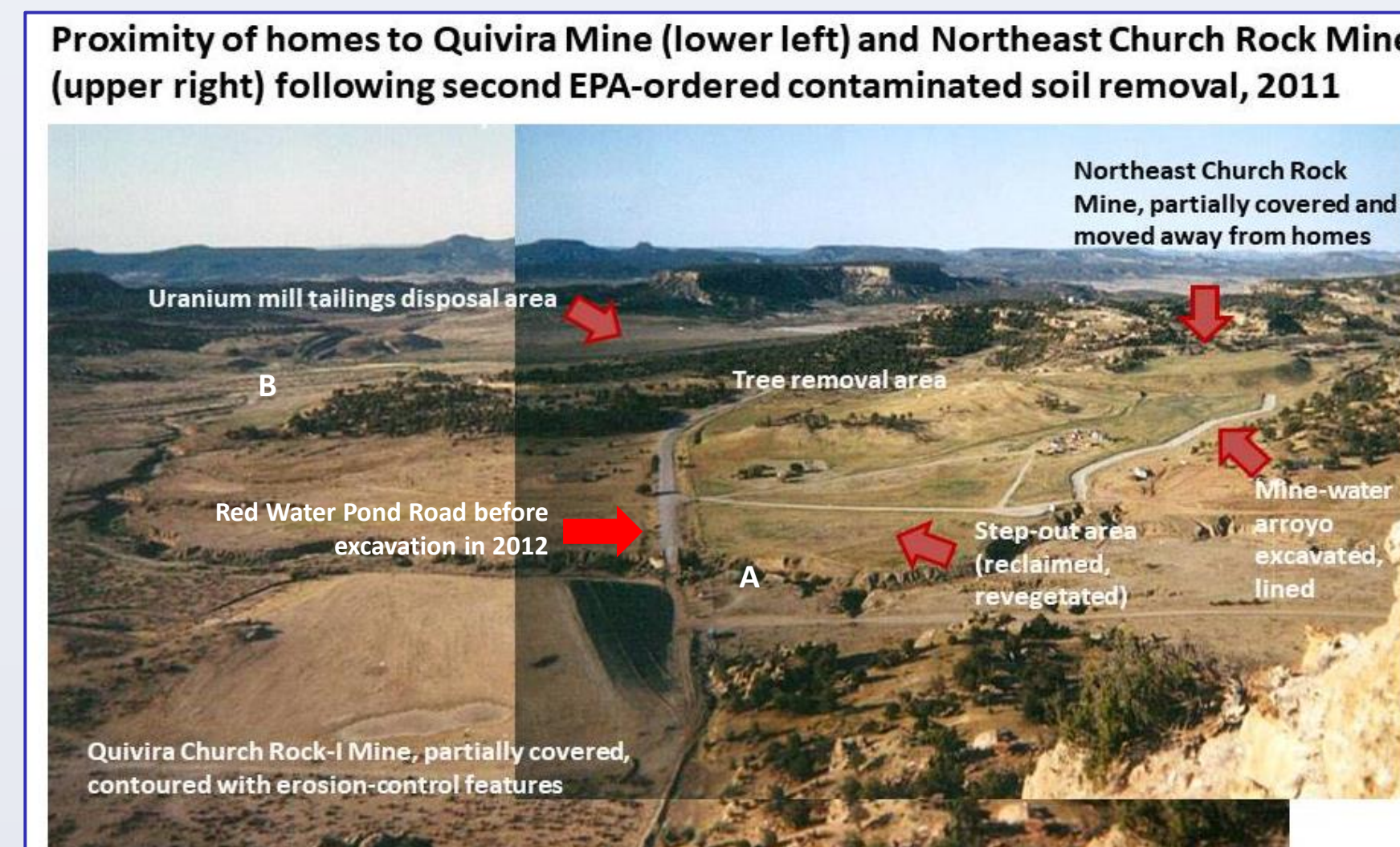


L-R: Children play next to a hogan with a white pile of mine waste in the background; an uncle takes the grandkids for a horse ride next to a mine waste dump; a 4-year-old boy watches crews remove contaminated soils from next to this home; co-author Bertha Nez and great-grandson prepare for the 2017 commemoration walk and gathering. (Photo credits: Tony Hood, Teddy Nez, Chris Shuey)

Changing Landscapes (2004-present)



This montage by RWPRCA members shows changes in the landscape over a 14-year period. Pinon and juniper trees populated a hillside in the community in 2004 (top). Most of the trees were removed to remove contaminated soils under them in 2009-2010 (middle). Re-seeding produced new ground cover by 2018, but, invasive species returned.



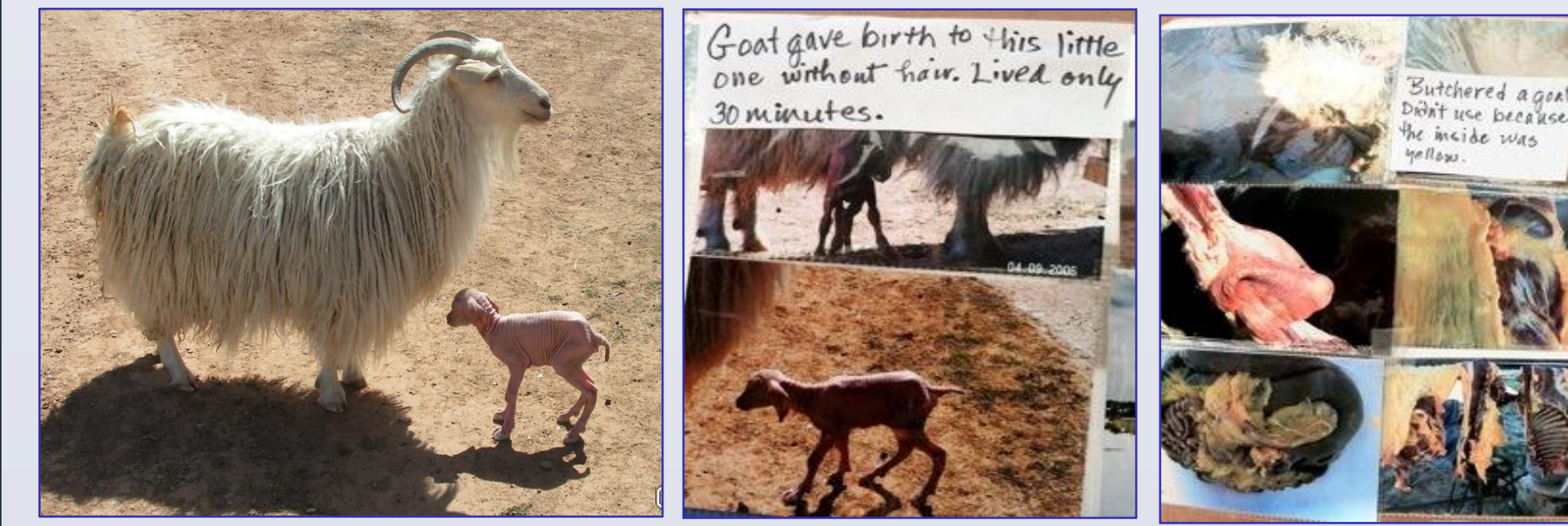
RWPRCA members spliced together these photos to show the close proximity of homes to mine sites and waste piles, and the progression of contaminated-soil removal through 2011. A third removal focused on Red Water Pond Road (middle) and the Eastern Drainage Area south of the Quivira Mine (left middle).

Flash Floods Threaten Bridges, Mine Wastes, Mill Tailings



New rock structure installed in Pipeline Arroyo next to Quivira Mine in June 2018 (L) was damaged by flood waters three weeks later (R). Flood waters in Pipeline Arroyo next to the Quivira Mine (A) inundated a crossing on Pipeline Road one-half mile north of the UNC tailings dam in 2012 (B). These points are shown on the 2011 photo montage to the left. (Photo credits top: Paul Robinson, Edith Hood; bottom: Terry Keyanna.)

Livestock Concerns (2005-2006)



RWPRCA members observed, and recorded, the birth of a hairless kid (top left and center) and discoloration of internal organs of goats after butchering (above, right). (Photo montage and photo credits: Bertha Nez.)

Our sheep and goats are dwindling. It's hard to keep them healthy.

— Peterson Bell

1979 Mill Tailings Spill; mine dewatering, 1968-1986



Risk Reduction and Community Trauma: Contaminated Soil Removals, 2007-2012



EPA cleaned up the [radon] vent holes near my home in 2017 and 2018. Community members, including me, had a problem with asthma, but it seems we are no longer affected.

— Jacquelyn Bell-Jefferson

RISK REDUCTION: A 2007 Removal Site Evaluation found high levels of uranium, radium, arsenic and other metals in soils around homes in the "Step-Out" area north of the Northeast Church Rock (NECR) Mine (chart at right). USEPA ordered General Electric, the NECR Mine owner, to remove contaminated soils from around homes in 2007 (A) and again in 2009-10 (B). A third removal action in 2012-2013 focused on excavating soils beneath Red Water Pond Road (C) in the Eastern Drainage Area (D). About 160,000 cubic yards of soils were removed. A standard of 2.24 pCi/g of total radium was adopted to guide cleanup.

(Photo credits above and below: Chris Shuey, Teddy Nez, Rio Algom, Anna Benally)

	Ra-226	As	Mo	Se	U	V
	pCi/g					
	mg/kg					
Screen	2.24	3.7	5,100	5,100	200	1,000
Qty	263	229	229	229	229	229
Avg	30.6	4.2	3.8	9.5	79.7	40.2
Max	875.0	14.9	214	159	3970	502

Source: MWH Removal Site Evaluation slide presentation, May 2007.

TRAUMA:



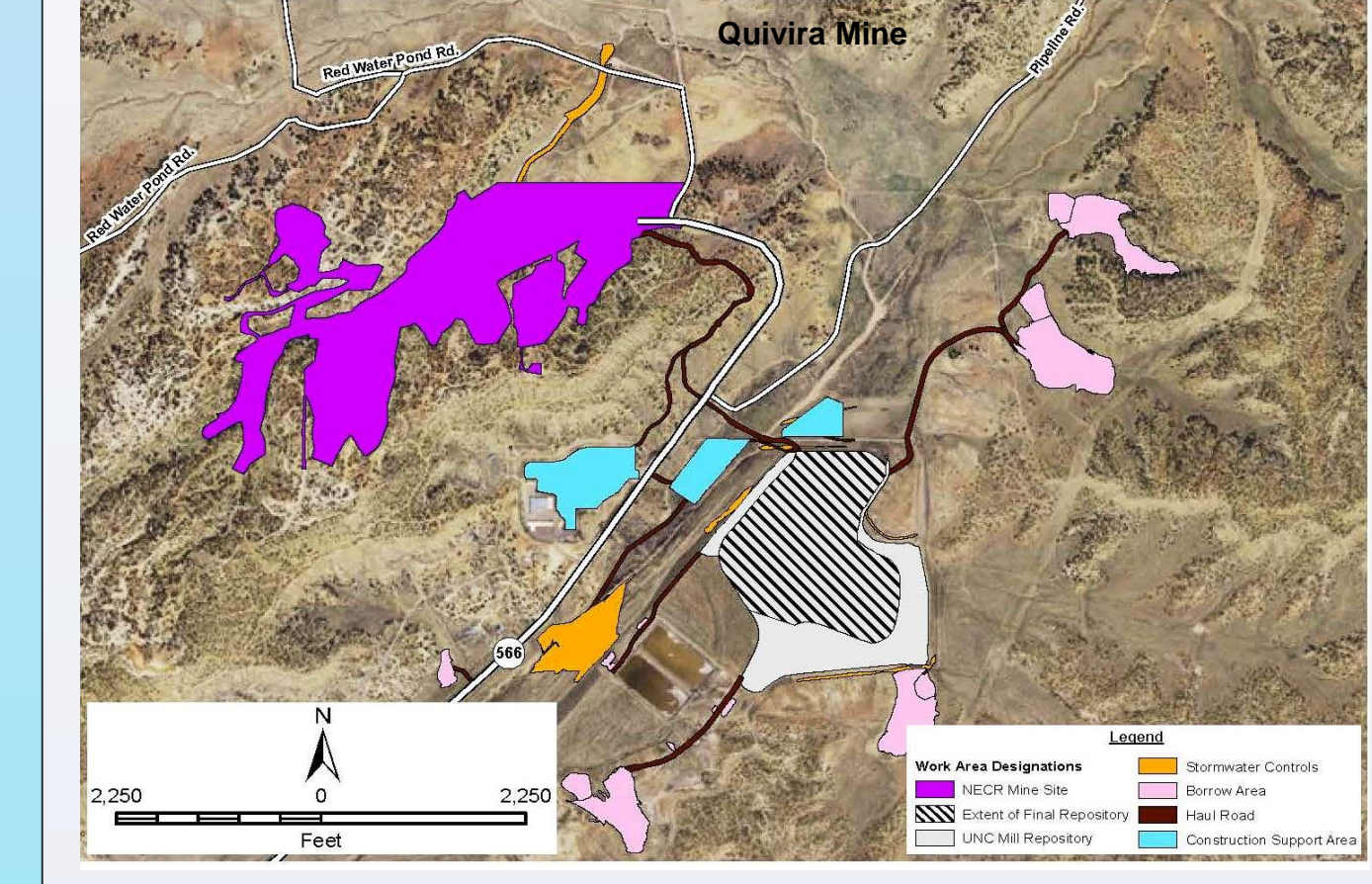
We had to place our household belongings in storage containers and our homes were covered in plastic. In the first cleanup, several families were moved to a motel on the west side of Gallup [some 20 miles away]. The second and third times, we were moved to an apartment and motel, about 15 miles away, for periods of seven and five months. The children and grandchildren were not used to being quiet, and there were complaints about us. We know that it was important to remove the contaminated dirt to reduce our exposures, but we never thought that our "temporary housing" would create such upheaval in our families.

— Bertha Nez



Backhoe removes soil around hogan, May 2007

Current Clean-up Plan



Approved by USEPA Region 9 in 2011 and by Region 6 in 2013, EPA's plan would move NECR mine wastes (~1 million cu yds) to the UNC mill tailings disposal facility, an unlined disposal cell for 3.5 million tons of tailings generated between 1977 and 1982. The move, once approved by the U.S. Nuclear Regulatory Commission, may take 7-10 years. RWPRCA families are expecting to move again during construction. No disposal plans have been proposed for the Church Rock I (Kerr-McGee/ Quivira) mine wastes (~600,000 cu yds).

What's the Future Look Like for Our Community?

Uranium mining impacts on our community are now 50 years old, and only recently did the Government announce that it would begin considering the final clean-up plan that could take another 10 years to complete. As we think about this long and painful experience, we have four main areas of concern:

- We have observed changes in the condition of the land, the vegetation, water, and air;
- There has been a loss of place; our population has declined because the younger generation doesn't think it's safe to live here;
- The health of the people is deteriorating and the livestock are less vibrant; no comprehensive health studies have been conducted; and
- Will the land be restored? Will it support life?

Community Actions to Address Exposures

We never planned on being environmental justice activists, but we've had to take action to remember the Navajo Uranium Legacy and to advocate for the restoration of our land, our families and our health. This is a list of our actions over the past decade and a half:

- Formed an organization (2006-2007)
- Testified before Navajo Nation Council, NM Legislature and US House of Representatives ("Waxman Hearing," Oct. 23 2007; below)
- Participated in radiation monitoring, soil sampling and air monitoring as part of the Church Rock Uranium Monitoring Project (2002-2007); led to identification of contamination from NECRM around homes, prompting USEPA to address the problem through the Superfund law
- Organized annual Uranium Tailings Spill Commemoration March (2009-2018)



- Joined the Multicultural Alliance for a Safe Environment (MASE) as a core group (2009)
- Contracted with USEPA Region 9 for outreach services (2012-2016)
- Testified before the Inter-American Commission on Human Rights (2015)



- Gave a talk at the Albuquerque Center for Peace and Justice Center (December 2016)
- Participated in Human Rights meetings in Atlanta GA (October, December 2017)
- Hosted Russian-Mongolian and Japanese delegations (2009-2018) (photo, left)

- Collaborated with the UNM Indigenous Design and Planning Institute to develop plan for new community (2012, 2017)
- Attended Western Mining Action Network annual meetings in Saskatchewan (2010), San Carlos Apache Reservation (2016), and Kamloop, British Columbia (2018)
- Conducted interviews and site visits with many media outlets, including New York Times, Huffington Post, National Geographic, Gallup Independent, and Navajo Times



RWPRCA's Edith Hood and Larry J. King (front row) were among five Navajo citizens testifying at the Waxman Hearing.



We use this quilt, made by MASE's Susan Gordon, to raise funds for our group.

Acknowledgements

The authors wish to thank RWPRCA members Jacquelyn Bell Jefferson, Anna Benally, Grace and Bradley Henio, Tony Hood, Teracita Keyanna, Larry J. King and Jean Pinto and the Multicultural Alliance for a Safe Environment for their contributions and support. They also thank the UNM Community Environmental Health Program, UNM Native EH Equity Center, and Southwest Research and Information Center for their support to participate in the 10th Metals Toxicity and Carcinogenesis Conference.